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## PART I.

## ORIGINAL COMMUNICATIONS.

ART. I.—*Practical Observations on the Prevention and Cure of Puerperal Inflammations.* By ROBERT JOHNS, A.B., M.B., T.C.D.; Licentiate of the King and Queen's College of Physicians, Ireland; Licentiate and Fellow of the Royal College of Surgeons in Ireland; Member of Council of the Surgical Society of Ireland; Member of the Royal Zoological Society of Ireland; Ex-Assistant Master of the Dublin Lying-in Hospital; Late Consulting Accoucheur to St. Peter's Parochial Dispensary; Honorary Member and Honorary Vice-President of the Dublin Obstetrical Society; Chairman of the Midwifery Court, and Examiner in Diseases of Women and Children, Royal College of Surgeons in Ireland; Consulting Accoucheur to the Coombe and Maternity Hospitals, &c., &c., &c.

A VERY common and anxious inquiry now-a-days, outside the profession, is:—What is the reason of the great mortality in childbed? Death, when then occurring, is regarded with greater horror and alarm than at any other time; and such is only reasonable, for, as a lady not long since remarked to me:—"It is not natural for woman

to die in the performance of the most important function of her sex;" in confirmation of which we are told "she shall be saved in childbearing," to which end her beautiful and perfect conformation, together with other circumstances attendant thereon, tend very much, for truly she is "fearfully and wonderfully made."

For some years, my attention having been drawn to this fact, I have been induced to investigate the cause or causes of such a contingency; and to discover, if possible, how far it is in our power, if not to prevent its occurrence, at least to lessen its frequency and mortality. In this I think I have been successful; at all events, the result of such inquiry has been highly satisfactory to myself, and I trust it shall be viewed in a similar light by my professional brethren.

It is a well-established fact that, comparatively speaking, very few females die when absolutely in labour, but that the fatal issue arrives at a more distant period, and is generally the result of some form of abdominal or pelvic inflammation. Denman says—"Puerperal fever occasions the death of much the greater part of women who die in childbed." Dr. John Clarke has stated:—"That of all women who die in consequence of child-bearing, by far the greater number are cut off by disease after delivery, very few, with good management, dying during the act of labour." Professor Simpson states that:—"Nearly 3,000 mothers die in childbed every year in *England* and *Wales*, and the great majority of these deaths are produced by puerperal fever." And we have a still further confirmation of these statements, if such was required, in the almost daily published recommendations of ventilation, deodorization, and such like, as preventives of the disease; indeed, very lately, to this end, the most startling proposition, of "washing over the interior of the womb, immediately after delivery, with a solution of nitrate of silver," has been made by some visionary—for surely we cannot otherwise designate him.

Of all the diseases to which the human female is liable, I know of none which is more insidious in its invasion, more rapid in its course, more proclivous to a fatal termination, and, failing in the latter, more prone to lay the foundation of some form of secondary inflammation—as phlegmasia dolens, and such like painful, dangerous, and often fatal complaints—than puerperal fever. Denman describes it as "A disease in which the symptoms come on with violence, proceed with rapidity, and of which the event is very often fatal."

From an experience of many years I can fearlessly assert that, in

by far the greater majority of instances, especially in private practice, *post partum* inflammation is either induced or overlooked—and thereby let run on, in some, to a speedy and fatal termination, and, in others, to the causation of affections above alluded to—by the medical attendant, either from want of practical knowledge, or of common attention, on his part; or from neglect or violation of his directions by the nurse, by the patient, or her friends. In this remark I am more than borne out by the following opinions, which have only come within my knowledge since my judgment had been formed, and they are therefore the more valuable. Denman thus speaks:—"There is but too much reason to lament that, inconsiderate proceeding and the want of common care frequently give rise to puerperal fever." Dr. John Clarke says:—"With respect to improper treatment after delivery, this is partly to be imputed to the accoucheur in some instances, perhaps, but much more frequently to the woman herself, either in using some indulgences of the appetite which are incompatible with her situation, or to the well-meant but ill-judged advice of friends, or the obstinacy of bad nurses." Dr. White states:—"That most, if not all, those disorders which are usually supposed to be peculiarly incident to the puerperal state, are either the effects of mismanagement in the accoucheur or nurses, or else arise from the patient's own imprudence—that they may, in general, be truly said to be fabricated, and may always, except in lying-in hospitals, be avoided."

Upon those grounds I feel it my duty to lay before the profession my views on the subject, for which I only ask that amount of consideration of which they shall be deemed worthy; still I conceive that if they shall be as generally adopted, and as rigorously carried out by others as they have been by me, we shall have less mortality in the parturient state, and less organic disease consequent thereon.

I cannot let this opportunity pass without acknowledging my debt to my friends, Dr. Evory Kennedy and Dr. Charles Johnson, for much of my success in this as in other instances; for, whilst I had the honour and advantage of being their assistant in the Dublin Lying-in Hospital, I received from them very many highly valuable and practical suggestions.

It is not my intention to enter into the *vexata quæstio* of what is the nature of puerperal fever, for I do not think that such a course would be profitable; but as in almost all, if not all, the recorded cases of the disease in which *post mortem* examinations were made, there were evidences of inflammation; and, as I believe, now-a-days,

no practical man will assert that it is not inflammatory, at least in some stage, be that never so short, I shall class it amongst puerperal inflammations; but, *in limine*, I must state that I am not now about to recommend any new specific for those maladies, my object being merely to demonstrate that their occurrence can, and how they can be prevented in many instances, as also their removal effected more frequently than it is.

From what has been already stated, it is obvious that our intention is to prevent the advent of the disease; but, having failed in it, to use our best endeavours to remove it.

Prevention is to be viewed in a two-fold light; in the one our object being to avoid or remove predisposing causes, *obsta principiis;* and in the other, where those causes have obtained, to counteract their baneful influence by adopting that treatment most likely to ward off the anticipated danger; and, as White says:—"'Tis an axiom in physic, that a remedy which cures a disorder will always prove prophylactic against it." Our wishes shall be best carried out, by adopting, on the "*venienti occurrite morbo*" principle, the most powerful of those means successfully employed for its cure, but less actively; if, notwithstanding, we fail in our purpose, we gain a great advantage in having commenced treatment so early in a disease which runs its course so rapidly; for in very many instances the delay in such, even for six hours, has made the difference between recovery and death.

The causes of *post partum* inflammation are very numerous, their name being "legion;" however, the following may be classed amongst the most frequent and most powerfully predisposing:—

1. Impaired health during pregnancy.
2. Want of cleanliness and of ventilation. Hospital influence.
3. Contagion. Epidemics.
4. Distress of mind from seduction, and such like; anxiety, and excitement caused by visitors.
5. Errors in diet, and use of stimulants.
6. Hemorrhage; introduction of the hand for version, or retained placenta; portion of secundines retained, or clots putrefied in the uterus.
7. Drawing the breasts by artificial means too soon after delivery, or repelling the milk too suddenly by cold applications of vinegar, &c.
8. Exposure to cold, too early rising, or going out too soon after delivery.
9. Puerperal convulsions, actual or threatened.

10. Uterine disease.

11. Inhalation of chloroform during labour.

There are others which do not exercise so powerful an influence; nevertheless, when they obtain it is well to watch narrowly the case, and to be prepared for any contingency, such as the coëxistence of some form of dropsy, varicose state of the lower extremities and genitals, false pains terminating in tedious labour, neglected after-pains, and inflammation having followed upon former labours. If, however, many are present, the case then becomes more serious.

1. It is of the last importance that, when a female falls in labour, she should be in good health; for experience tells us that the opposite condition strongly predisposes to puerperal inflammation. Dr. Samuel Cusack, in a monograph on this affection, states:—"That by far the most powerfully predisposing causes are derangement of the general health, and impaired and broken down states of the constitution previous to delivery." Dr. John Clarke thus writes:—"We ought always to remember that the progress of the future labour and its consequences will depend very much upon the previous state of the patient's health. Another cause of the disease is, most probably, too great indulgence in improper kinds of food, and too little attention to regularity in the mode of living towards the conclusion of pregnancy; in everything, therefore, which we recommend to pregnant women, we should consider the effects which may be thereby produced upon the labour, and upon the health of the woman afterwards. By paying constant attention to these points we shall so conduct a woman through the state of pregnancy, that she will fall into labour in perfect health, and with the constitution prepared to sustain the violence of the exertions employed during the progress of it—and this without the most remote danger of disease being produced afterwards." Mackintosh and White mention constipation and accumulation of feces in the intestines as causes; indeed, I have met with cases so produced; and others are given in the different hospital reports. I have heard Dr. Charles Johnson say, that he never had a bad recovery where he had the management of the case during pregnancy; and so firmly convinced was he of the necessity of good health being associated with labour, that, during his mastership of the Lying-in Hospital, he made it a rule that, whenever practicable, the females seeking admission should be induced to attend at the institution, from time to time, before their labour set in, in order that they might be kept in good health up to that period.

2. Cusack states:—"That a large proportion of persons labouring under this affection were known to inhabit badly-ventilated rooms." Hamilton affirms:—"That it occurs chiefly among those who inhabit confined apartments, in narrow, dirty, and ill-ventilated lanes." White states:—"That keeping the patient continually cool, and the air free from putrid effluvia, are matters of the utmost consequence. The neglect of these cautions often lays the foundation of puerperal and miliary fevers." Dr. John Clarke says:—"Breathing a pure air is very necessary; therefore the chamber in which the patient is confined should, if possible, be spacious and airy; a free ventilation should be allowed, the extremes of heat and cold should be equally avoided, and all impurities be constantly removed which might contaminate the air of the room." And we have the truth of all this strongly exemplified in hospitals, where the disease is always more rife and more fatal; nor ought such to be an object of wonder, when we take into account that a number of females are delivered and habited in the same ward, the atmosphere of which must necessarily be tainted by the different secretions and excretions, which, in an unhealthy season of the year, no amount of ventilation can purify. White thus speaks on this subject:—"I am afraid no methods will be effectual where several lying-in women are in one ward; it will be very difficult to keep the air pure, dry, and sweet, and at the same time to accommodate the heat of the ward to their different constitutions and symptoms." The only means, I believe, of arresting the progress of this terrible disease, under such circumstances, is the shutting up, cleansing, painting, and thoroughly ventilating of the institution, as has been done successfully, on many occasions, in the Britain-street Lying-in Hospital.

I think it is a subject for special inquiry, whether or not it be an advantage to dispense with hospital relief, if not altogether, at least in a great degree; for confessedly the mortality is much less in dispensary practice; and, according to Dr. Collins, the disease is less frequently met with outside those institutions. The doctor thus speaks:—"Puerperal fever occasionally occurs of the same character as in hospitals, amongst the lower classes; never, however, to any extent." And Jussieu thus confirms his assertion:—"Cette maladie n' a pas été aussi violente, ni aussi commune parmi les pauvres femmes qui ont accouchées chez elles, que parmi celles qui ont été accouchées à l'Hotel Dieu."

In the Statistical Report of the Royal Maternity Charity of

London for 1861, I find the following:—"In this year 4,110 women were delivered, and 11 died, not one of whom had puerperal fever. It is a gratifying feature, one bearing remarkable testimony to the value of home succour to lying-in women, that no death occurred from puerperal fever. As a contrast to this, during the same period, the charity of the London lying-in hospitals was largely embittered by the baneful alloy of puerperal fever. Lest more victims should fall at the shrine of this questionable charity, two of these hospitals have been closed for a while. In the meantime, no similar calamity can arrest the active and successful benevolence of the Royal Maternity Charity; this institution does not generate the elements of destruction for its clients, and consequently does not create the conditions which have so often led to the interruption of the operations of lying-in hospitals. Such a lesson as this challenges earnest attention. If lying-in hospitals be a necessity, then let them be constructed on the principle of cottage hospitals, and raze the hospitals—whose wards have been the scene of such dire, because artificially produced, calamities—to the ground." Nevertheless, although we did get rid of, or even lessen hospital relief, still other causes, to be dealt with by-and-by, would be much increased in Ireland, where revelry is the order of the day in the houses of the poor on such occasions, and where cleanliness and ventilation are equally despised and neglected. Dr. Cusack has recommended the employment of tents.

3. I believe that now-a-days no one will be so hardy as to deny those influences which have been recognised since the time of Hippocrates. But each acts in a different way, by the direct agency of the disease itself, and by that of others similar, perhaps, in their nature; as thus the malady may be induced by contagion, from the affected party to another, or by infection through the medium of the physician or the nurse-tender, as also by the fomites of such diseases as typhus fever, erysipelas, and scarlatina, or by the exhalation from dead bodies conveyed by those engaged either in anatomical pursuits, or *post mortem* examinations; of the indirect communication instances are not wanting, for they have been many; and in fact on several occasions the medical man has retired from practice for a period, so much was he convinced that he conveyed disease and death in his wake.

Typhus fever has been mentioned by many as a cause. Cusack has remarked:—"That persons labouring under typhus fever at the time of their accouchement were the subjects of puerperal fever."

Collins states:—"That in two or more instances puerperal fever originated in the Dublin Lying-in Hospital, from a case of typhus fever, in patients admitted into the institution in labour." It is well known that the converse of this sometimes obtains, for, on more than one occasion, nurses in attendance upon puerperal fever patients have been affected with a very bad form of typhus fever.

The intimate connexion between this disease and erysipelas is almost universally admitted. Dr. Collins has stated:—"That puerperal fever has been epidemic in the hospital on several occasions when typhus fever prevailed in the city, and at other periods when erysipelas was frequently met with." A medical friend of mine had some time since under his care a female suffering from puerperal inflammation, evidently induced by her having cared a relative affected with a bad form of erysipelas, for some days, up to the period of her labour setting in; the malady appeared on the third day, but she eventually recovered. It is not unusual, in the course of this disease, for erysipelas to appear, as it were critically, on some part of the body. Hey speaks of it as a common occurrence. Gordon and Armstrong relate two similar cases, each. I, also, have seen such cases, in two of which abscesses formed, and were opened, one at the side of the anus, and the other in the sole of the left foot. Some time since I was made cognizant of the fact that one gentleman had just then three cases of puerperal inflammation under his care, each and all being traceable to the fomites of gangrenous erysipelas in a patient's leg, which he daily dressed. As in the case of typhus fever, so in this—we can prove our theory conversely. In the year 1840 I visited Strasbourg, which had been shortly before the scene of a terrific epidemic of puerperal fever; and in conversation with Professor Stoltz, the principal physician to the lying-in hospital of that city, he informed me that in almost all the children of the females so attacked a bad form of gangrenous erysipelas appeared, and proved very fatal. About five years ago I had two cases of erysipelas in the infants of females who had puerperal inflammation, but both they, as well as their mothers, recovered. Trousseau has remarked:—"That the erysipelas of newly-born children is observed principally when an ill wind of puerperal fever blows over the hospitals of Paris." I am credibly informed that, about ten years since, in this city, a lady died of puerperal fever, produced in her through the agency of her nurse-tender, who had left a house much infected with scarlatina to attend upon her. About two years ago another lady

thus lost her life; and in a few days after her interment scarlatina appeared amongst her children, and proved fatal to one. Yet, again, we find a Dr. Blakely Brown narrating, in one of our medical journals, eight cases in which scarlatina occurred in the puerperal state without inducing puerperal fever or fatal consequences. We sometimes meet with a rash not unlike scarlatina complicating puerperal fever, but it is not necessarily fatal.

Some years since, it was the habit at the Vienna Lying-in Hospital to entrust one portion of the patients in the institution to the care of male students, whilst the other was attended by females. Strange to say, after a very short period, it became manifest that the mortality amongst the former class was far greater than in the latter, which, on inquiry, was found to have resulted from the fact of the male students being daily engaged in anatomical pursuits. Consequent upon this *eclaircissement* they were superseded by females, after which the discrepancy completely disappeared, and an order was issued, that, for the future, no student so engaged would be permitted to attend. So much impressed am I with the truth of this observation, that I invariably refuse either to make, or assist at, necroscopic examinations, and am most particular in the ablution and deodorization of my hands after I have examined any female suffering from malignant disease of the genitals, or any other, accompanied with much purulent discharge.

In hospitals, puerperal fever is sometimes propagated apart from contagion. White says:—"It is conveyed from one patient to another by miasmata lodging in the furniture, &c.;" or, as Johnson states:—"As the apartments and furniture will imbibe some of the morbid effluvia arising from patients, the air must always be more or less tainted."

Many have been the theories advanced as to how the disease is brought from one female to another: for instance, by impurities adhering to the hands, clothes, and such like; yet after the most careful cleansing and purifying, together with strict attention in changing every article of dress, the result has been the same. A few years since a new and, to say the least, a very ingenious theory was advanced—that the breath is the medium of conveyance, whose *modus operandi* is as applicable in the case of the intervention of a third party as by direct communication; which, in the latter case, I believe will not be doubted by any one, but in the former it is not quite so evident, and is thus attempted to be explained:—That the doctor, or nurse, as the case may be, although not obnoxious to the

disease, may absorb its fomites, and give them out to the pregnant or parturient female, who is in a condition fitted to receive the malady thereby produced; and that in the case where typhus fever, erysipelas, or scarlatina is the engendering cause, even though she inhale the generating elements of those affections, she, having an immunity from them, may escape, yet in their stead an analogous disease is produced. It is a curious and interesting fact, that the pregnant woman will often resist infection, yet, when delivered, she shall become much predisposed to it; and again, although she be exposed to contagion for some time before delivery, she may not exhibit any sign or symptom of the disease; yet, after that event, the malady may appear in her without any subsequent exposure to its influence. Within the last year scarlatina of the diphtheritic type infected four children of one of my patients, who was carrying her tenth child. Being a very anxious and affectionate mother, she remained in constant attendance upon them, in total disregard of all that was said to her as to the probable danger to herself. She, however, then escaped. Her labour set in with much hemorrhage, which continued after delivery; nevertheless, she had an excellent recovery. But, at the end of a month, her children (all of whom recovered) were admitted to her room, and in a couple of days afterwards a mild form of scarlatina set in, of which she quickly recovered.

Dr. —— related to me the following case, which is very apposite here:—"Mrs. ——, when *enceinte* of her fourth child, was exposed to the infection of small-pox in her own children, for some weeks previous to her accouchement, without any appearance of the disease in her; however, two days after her delivery—*à terme* of a putrid child, with the skin peeling off—small-pox (evidently the destroyer of the fetus) attacked her, but she eventually recovered." This phenomenon we *occasionally* see further exemplified in the cases of females infected with syphilis, who, although contaminated by it, exhibit no external evidence of its presence in their systems until after the birth of their children.

In many instances it is impossible to pronounce whether puerperal inflammation be induced by contagion or epidemic influence, as they are often very closely associated; but, of the two, I believe the former to be the more fruitful element of propagation. That this disease, even when sporadic, is infectious, I doubt not; as also that it frequently, when so—particularly in hospitals—becomes epidemicized. In the majority of cases this malady, be it sporadic or

epidemic, sets in about the same time during the puerperal state—indeed I have seen it occur equally early in both instances; so that the fact of its having appeared within a few hours after delivery is no proof of the poison having been absorbed by the system before admission to hospital, which is still further confirmed by the fact that cholera and other diseases have suddenly seized upon persons in perfect health, who could not possibly have previously imbibed the poison. No doubt, puerperal fever attacks its victim sometimes before the birth of her child, without having been noticed; but the cases illustrating the immunity from disease generally enjoyed by the pregnant woman, now adduced by me, argue strongly against such as a rule.

I think, from what has already appeared, that I am fully warranted in asserting that the man who is engaged in anatomical pursuits, on the attendance of typhus fever, erysipelas, or puerperal fever in hospitals, or who is resident therein at epidemical periods, is very reprehensible in practising midwifery; and I also much fear that if such practices continue, and that preventive treatment be not more generally adopted, puerperal fever will become still more general.

Even though this disease be epidemic in its origin, we generally have sufficient warnings to enable us to adopt preventive measures, as, for some time previously, be it long or short, we meet with very slow recoveries, without being able satisfactorily to account for such. Dr. Collins, in his valuable work, has made the following remarks:—"Dr. Joseph Clarke states, it was generally observed that previous to puerperal fever becoming epidemic in the hospital, the patients recovered more slowly, or, to use the language of the nurses, it was more difficult to get them out of bed than usual. This, from experience, I have no doubt is the case; and, when observed, should arouse the medical attendant to adopt, without delay, every means he considers in the least degree calculated to prevent its occurrence." Dr. O. van Franke, in his report of the puerperal epidemic which occurred in Scanzoni's Midwifery Institution at Würzburg, in the months of February, March, and April, 1859, states:—"That precursory indications were met with at the end of 1858 and beginning of 1859, such as mild forms of endo-metritis and peritonitis. About February, irregularities in the parturient process were of frequent occurrence—as deficiency of pains, and still oftener irregular spasmodic contractions, spastic contraction and rigidity of os; the last condition, in some of the fatal cases, was the

cause of the excessive prolongation of the labour, which, independently of other complications, is a powerful predisponent to the disease."

4. The intimate connexion between the mind and the body, and the influence that each exercises on the other, are too well known to require any comment from me; but I believe that this fact is nowhere better exemplified than in the puerperal state. It is a trite and indisputable remark, that seduced females are particularly obnoxious to puerperal fever, which is with them very fatal. Drs. John Clarke, Mackintosh, Campbell, Ferguson, Cusack, and many others, have advanced similar opinions. Newspaper and other reports of deaths from this malady have an injurious effect upon the pregnant woman. Dr. John Clarke relates the case of a female who died of the disease, having been constantly prepossessed that she should do so, because her mother had died in childbed. About twelve years ago a lady came up to Dublin from an inland county, for her first confinement, in consequence of a very fatal epidemic of puerperal fever being then raging in her neighbourhood. Still she was much in dread of catching the disease, and dying of it; indeed she was not permitted to forget the subject, for, contrary to the repeated injunctions of her medical attendant, it was well rung in her ears by a fussy old mother, who each day, in her presence, even before labour set in, said to the doctor—"Has she got puerperal fever yet?" Suffice it to say, she did get it, or rather it was, as just stated, thrust upon her, and she succumbed, without any other predisposing cause having existed. A few days before her demise she was seen, in consultation, by a most eminent accoucheur in this city, who, at his first visit, remarked to her attending physician—"Doctor, you are more frightened than hurt."

Armstrong says:—"As anxiety of mind materially contributes to produce this disease, it should always, if possible, be timely allayed; and, where prevalent, if an alarm be abroad, the practitioner must, above all things, aim to inspire the apprehensive patient with a complete confidence in his powers of prevention."

The too soon admission of visitors to our patient's room has also a very deleterious effect, of which I have met many instances. Dr. John Clarke thus speaks on the subject:—"I need not observe how much great quiet and rest after labour must contribute to appease that irritation of the system which must be occasioned by the violent efforts of labour, and, therefore, of what great consequence it must be that all admission of company be carefully

avoided." Armstrong says:—"In the first week of confinements the rooms are crowded with a succession of friends and visitants, who generally converse over a large fire. As improprieties of this nature are often followed by disagreeable, and sometimes by fatal consequences to the sick, they cannot be too publicly and frequently exposed." It was, and, I believe, still is, the rule of the Dublin Lying-in Hospital not to permit visitors to patients until after the third day, experience having shown that violation of such a wholesome regulation was very frequently fraught with danger.

5. There are two periods at which those errors act deleteriously —during labour, and too soon in the subsequent convalescence—many instances of which must be familiar to the practical accoucheur; in confirmation of this, the following authors thus express themselves. White:—"If the woman's pains be not strong enough, her friends are generally pouring into her large quantities of strong liquors, mixed with warm water; and if her pains be very strong, the same kind of remedy is made use of to support her. Broths, or soups made of flesh-meat, especially if given warm, are injurious." Dr. John Clarke, who relates two cases of inflammation from the use of wine and spirits, says:—"Stimulants in labour are bad; if all be going on well there can be no occasion for them; and if ill, they are much more likely to do harm than good—and a fever afterwards may be the consequence. In general, it is better, I believe, to avoid animal food of all kinds till the stimulus arising from the secretion of milk has subsided, and will render them less liable to inflammation." Armstrong says:—"If we would lessen the risk of fever in general, and of puerperal fever in particular, we should enjoin the strictest antiphlogistic regimen, especially during the first four or five days; the use of cordials cannot be too positively and repeatedly prohibited." Campbell objects to the "too early use of cordials, or stimuli of any kind." My own experience would lead me to lay down, as a general rule, that animal food is improper, and ought not to be allowed to our patient till after the secretion of milk has been well established, the fever attendant thereon has subsided, and the pulse has come down to its natural standard. Stimulants, when used during labour, strongly predispose to hemorrhage; and when had recourse to, too soon after its completion, in the majority of instances, induce puerperal inflammation.

6. I am of opinion that hemorrhage is one of the most powerfully predisposing causes of this disease. Ferguson gives it and abortion

as causes. Denman says:—"It seemed also an observation of importance, that those women, who lost much blood at the time of delivery were more liable to this disease, and it was more commonly fatal to them." Burns:—"That hemorrhage seems to predispose to it." Hey and others record several cases so induced. Cusack mentions it as a cause. Armstrong thus speaks:—"It would certainly seem that hemorrhage during delivery does, in certain subjects, predispose them to attacks of the puerperal fever; and it was an observation of the late Dr. Clarke, of Newcastle-on-Tyne, who had seen numerous examples of this disease, that uterine hemorrhage had preceded the majority of the attacks." Many cases, consequent upon hemorrhage, are recorded by Collins and others, in their "Reports of the Dublin Lying-in Hospitals." Introduction of the hand into the uterus, for any cause, but more especially for the removal of an after-birth, morbidly adherent, and retention of the secundines, or portion of them, are justly considered as inducers of puerperal inflammation. Many such cases are mentioned by Cusack, and in the "Reports of Lying-in Hospitals." Armstrong says:—"That a part of the placenta left attached to the interior of the uterus is a cause" White:—"That putrid fevers have been occasioned from the retention of the secundines." Ferguson also states:—"That retained placenta is a cause." Collins thus writes:—"Abdominal inflammation is a serious consequence upon retained placenta from morbid adhesion." Campbell says:—"The disease is sometimes produced by retained portions of the placenta."

7. I have met with cases of *post partum* inflammation caused by drawing the breasts by artificial means, and by the adult mouth, too soon after delivery; as also from the sudden repulsion of the milk by vinegar, and such like applications, when cold, to the breast. Dr. Charles Johnson, many years since, mentioned to me the case of a lady in whom hysteritis was induced by the drawing of her breasts by the nurse.

8. I have seen and heard of many cases of inflammation caused by getting out of bed too soon; in the first week, and at a still later period, it is by no means infrequent to meet this disease, either in a primary or secondary form, from exposure to cold by the too abrupt removal of the binder, too light clothing, or by going out to walk or drive before the expiration of one month from the time of delivery; which, from experience, I believe to be the just limit, if all has gone on well, except under very peculiar circumstances; and the truth of this must be apparent, even to the most superficial

observer, when he bears in mind that the womb, which before impregnation measured two and a-half inches, and weighed about an ounce and a-half, and which had at the termination of utero-gestation increased to about 12 inches, and attained to the weight of several pounds, could not possibly return to its pristine condition in a shorter period of time; indeed a gentleman some time since, writing upon subinvolution of this organ, states:—"That even at the end of three months from delivery it has not gone back to its normal state." I think, however, I may fearlessly assert it to be of paramount importance to keep our patient in the recumbent posture so long as we can feel the uterus enlarged above the pubis, apart from all other reasons; neglect in this direction, if it does not cause inflammation at the time, will most assuredly lay the foundation of future mischief; and we have this strongly exemplified by the frequency of uterine disease consequent thereon, as well as upon abortions; it being no easy matter to induce ladies to remain quiet sufficiently long after the latter occurrence. Indeed in many instances they are not to be blamed, as their medical adviser makes little of the accident, never remembering that it is an unnatural process, and, therefore, more likely to engender disease. Professor Simpson, in speaking of "Sub-involution of the Uterus after Delivery," says, what is familiar to every man who has much experience in gynecology—"That rising too soon after confinement is one of its causes, and that we know that both in the healthy and in the morbid state, the uterus is apt to become more congested when the patient assumes the erect position, and that a morbid degree of congestion interferes with various physiological functions; and we can easily imagine that if a delicate woman gets up too soon after her delivery, and remains for a lengthened period erect, while the womb is still more than usually large, the circulation in its walls might get so impeded, and such an amount of congestion be produced as would prevent the normal changes in its walls, and impede the free absorption of its disintegrated particles." Dr. John Clarke recommends "the horizontal posture for some days," and says he has known "death to supervene on sitting up too soon after delivery." White says:—"One gentleman, deservedly of high character in the profession, in a late publication, has declared, that, in his own practice, he has seen more frequent instances of the puerperal fever from early sitting up than from all the accidental causes united." Campbell mentions "exposure to cold as a cause of the disease."

9. In the Twenty-fourth Volume of the *Dublin Journal of Medical Science* a paper may be found, by me, on Puerperal Convulsions, in which I have stated, as my conviction, that there is a manifest tendency of puerperal inflammation, which runs a rapid and often fatal course, to follow not only upon the disease, but also to complicate cases in which premonitory symptoms were present, and the affection prevented shortly prior to the advent of labour; which assertion subsequent experience has proved to me to be correct. Dr. Collins has alluded to this fact; and Denman thus speaks on the subject:—"In almost every case of convulsions that I saw in the early part of my practice there was evidently, after delivery, a greater or less degree of abdominal inflammation; but by the present practice of liberal bleeding, this has probably been prevented." My cases, now alluded to, as well as many others recorded in the several "Lying-in Hospital Reports," attest that "*free bleeding*" has not prevented the occurrence of this complication.

10. I have known many instances in which *post partum* inflammation had been caused evidently by the presence of uterine or other pelvic disease; and others, where pregnancy or labour had followed too soon upon its removal; besides it is not an infrequent incident to see labour rendered tedious, or complicated by hemorrhage from such a cause.

Dr. Henry Bennett thus writes:—"The presence of inflammatory ulceration of the cervix during the first stage of the puerperal period has appeared to me powerfully to predispose the patient to puerperal fever, and to abscess of the lateral ligaments. The uterus seems to retain a predisposition to inflammation in the puerperal state, even in the cases in which ulceration having existed during pregnancy, has been cured before parturition occurred. I have met with repeated instances of puerperal fever under these circumstances."

11. Not the shadow of a doubt exists in my mind that chloroform inhalation during labour strongly predisposes to puerperal inflammation, and that it produces the disease, either directly by poisoning the blood or otherwise, or indirectly by inducing hemorrhage, or chest affections, already stated to be promoters of the malady. I have known puerperal fever in many cases to have followed upon its administration. For further remarks upon this, as also for other objections to the employment of this "*pernicious drug*" at such a time, I must refer to the last Number of the *Dublin Journal of Medical Science*, in which may be found a paper by me, entitled

"Practical Observations on the Injurious Effects of Chloroform Inhalation during Labour."

If we are successful in avoiding or removing those causes which predispose to puerperal inflammation, our end is gained; but if such an issue be not arrived at, we must employ, as prophylactic, whatever remedy has been most successful in treating the disease; its dose, mode of administration, and such like, to be regulated by the number and force of the existing influences. As I believe that mercury fulfils this indication, I would recommend its employment in a mild way, commencing immediately after, and in some instances before delivery, and continuing its use until the milk has been secreted; or, failing it, no unfavourable symptom having arisen up to the time it ought to have appeared; for rarely, unless from neglect or malpractice, does this malady occur at a later period. Dr. Collins, in writing of morbidly adherent placenta, says:—"Much attention should be paid to the abdomen after delivery; and on the occurrence of the least tenderness, an antiphlogistic treatment should be adopted. Where the patient suffers much in the removal of the after-birth, I would recommend the use of calomel and ipecacuanha to be commenced immediately after delivery, so as to be beforehand with any inflammatory attack; a grain and a half of each every fourth hour will be sufficient, watching its effects on the system."

Dr. Armstrong says:—"It ought never to be forgotten that it is in the provident anticipation of disease the medical man most strikingly shows the force of his understanding and the efficacy of his art. If, notwithstanding every possible precaution, there should be the slightest accession of fever after parturition, and especially if the puerperal fever be prevalent at the time, or there be any circumstances in the patient which predispose to its attack, we ought to be extremely attentive; as any fever may pass into the puerperal, particulary where great anxiety and irritability exist, because the main force of the general excitement will be liable to fall upon the abdominal viscera, from the peculiar state of the vessels at that period."

In the still further carrying out of these views it is the duty of every accoucheur, from day to day, to give special directions as to what ought to be done, and what avoided; to look narrowly into the state of the pulse, of the different organs, and secretions, as any deviation from the normal condition should lead him at once to investigate more closely into the case, and thereby enable him to grapple more successfully with the disease in its infancy—a matter of great importance when we bear in mind the necessity of early

and active treatment for the removal of a disease, so fatal at all times, but more especially the nearer its occurrence is to delivery; as also for the prevention of secondary affections, as phlegmasia dolens, pelvic abscess or inflammations, diseases of the uterus, ovaries, &c., so often consequent upon imperfect cures. So thoroughly convinced am I of the advantage, nay, of the indispensableness of catching the malady *in limine*, that I make it a point with the nurse and friends of my patient to send *at once* for me on the slightest appearance of any unusual symptom; for I should prefer being called twenty times uselessly, to being left behind *once* when required. I wish most sincerely I could impress upon all the necessity for such a course, instead of merely writing a prescription, or giving some trivial directions to the messenger, the consequence of which not unfrequently is that the disease is beyond the reach of remedies before efficient means have been adopted.

Dr. Collins says:—"I cannot here omit urging the great importance of the medical attendant seeing his patient instantly on her being attacked; whenever this is practicable, it is of the utmost importance."

Gordon says:—"When the patient had been ill for a longer period of time than twenty-four hours before I was sent for, I generally found that the disease was no longer in the power of art."

Denman writes:—"When the fever has remained for a very few days, the putrid symptoms, which are usually according to the degree of the preceding inflammation, advance very rapidly. If the first stage be suffered to pass unheeded, the physician afterwards called in, however great his talents may be, will too often have the mortification of being a spectator of mischief which he cannot then remedy, and of an event which he can only deplore."

And again:—"It is above all things to be wished, that physicians had the early care of patients in this disease; for the dissections of those who have died have proved that very terrible mischief is produced in various parts with amazing celerity."

Dr. Gooch "has observed the curable stages in many instances to pass over so rapidly that unless the first approaches of the disease be detected, cases will now and then be lost, which might have otherwise been saved."

Armstrong writes:—"I am fully persuaded that it may generally be arrested in the beginning; but that if the first twenty-four hours from its marked appearance be lost, no human efforts, generally speaking, can afterwards atone for the error."

And again:—"Puerperal fever sometimes creeps on in a very insidious manner, the abdominal inflammation being marked by a diminished sensibility of the nervous system."

We have this remark frequently illustrated in cases of mania and convulsions, these affections, as it were, masking the rapidly progressing puerperal inflammation—another objection, in my opinion, to the use of chloroform.

As I believe there is not any malady which more strenuously calls for the *cito*, *tuto*, *et bene curare* treatment than the one now under consideration, in which opinion I am borne out by the foregoing quotations, we must be in possession of what are the best means of cure, and the obstacles to their successful adoption. The abstraction of blood is generally requisite, either locally or constitutionally; rarely now-a-days is the latter admissible; but mercury is our sheet-anchor, given so as to affect the system—in very bad cases nothing short of salivation being sufficient either for its removal or for the prevention of those secondary affections already alluded to; for I hold it as an axiom that where active treatment has been adopted in the beginning the recoveries are better and quicker, and no unpleasant sequelæ result.

Armstrong has remarked:—"That where half measures have been employed, and when the patients have had lingering recoveries from this fever, other diseases are very apt to supervene.

Hall mentions—"Phlegmasia dolens as succeeding to many cases of puerperal fever."

The objection to venesection is, that of late years the type of the disease, although inflammatory, has been of an asthenic nature; the same holds good against the too great abstraction of blood locally; and, besides, the repeated application of relays of leeches answers, by far, better, is more manageable, and does not weaken. The advantages derivable from this mode of leeching were frequently pointed out by the late Professor Graves in his valuable Clinical Lectures. With respect to the use of mercury, I think I may with safety assert, that in no case has there been a fatal issue where there were distinct evidences of the system having been affected by it; at least, I do not know of a single well authenticated one. I have seen some in which the mouth was said to be sore; but such state was not caused by systemic mercurialism; the characteristic fetor was absent, and aphthæ were visible in the mouth, on the throat, and fauces—either the result of mechanical irritation, or being associated with dysentery or bad diarrhea, which affections are very

common in *post partum* inflammations, often very difficult to remove, and frequently a barrier to the use of this valuable remedy.

Denman thus speaks:—"The bowels are, in general, very much disturbed; and in some cases a looseness takes place immediately upon the accession; in others, in three or four days after, or not until the last stage of the disease; but it very seldom fails to attend; nor can it be removed without the greatest difficulty as well as danger, before the disease is terminated."

Hey and Hulme also mention such an occurrence. Twenty-six of fifty-nine cases recorded by Collins were so complicated, as were also forty-four of fifty-four given by Hardy and M'Clintock.

Beatty, in writing on phlebitis, says:—"It is almost impossible to produce salivation, no matter in what way the mineral is employed; and if given by the mouth, it is very frequently productive of distressing diarrhea."

Thus it is evident, that we frequently have to deal with a very serious impediment to our successful treatment of puerperal inflammation, which arises in one or both of two ways, either from its connexion with the disease, or from the use of medicine for the cure of the malady. Our object, therefore, must be to adopt such a line of practice, and such a combination of remedies as shall be most likely to prevent the occurrence of so obstructive an influence. In this I think we can succeed, as I constantly do, by an early administration of the mineral, and by giving it in moderate doses in conjunction with opium and bismuth. Opium here has a twofold beneficial effect, by its curative action on the inflammation, and by its astringent property preventing the mercury passing off by the bowels; but if we see our patient for the first time, when diarrhea has set in, we cannot be certain that mercury, be it never so well guarded by opium, will not aggravate this complication, especially as opium, in some exceptional cases, has been known to purge; but such is not the case with bismuth, which I have been, for some years, in the habit of combining with mercury and opium in abdominal inflammation, and I have never yet seen any unhealthy action of the bowels after its employment. I have also constantly given such a combination even where diarrhea was present, giving the mercury in very small doses by the mouth, together with its endermic use, and in not one instance have I seen the bowel complaint increased, but, on the contrary, it has been arrested. For the knowledge of this action of bismuth I am indebted to my friend, Dr. Alfred Hudson; as also for the magic curative effect of enemata of nitrate

of silver in this troublesome form of diarrhea. On some of the uses of this latter remedy a very valuable paper, by him, is to be found in the Seventeenth Volume of the first series of the *Dublin Journal of Medical Science.* As adjuncts to treatment we employ stupes, turpentine epithems, turpentine internally if much flatulency exists linseed-meal poultices, hot dry bran (commonly known as the bran poultice, which has all the advantages of a perpetual fomentation, besides those of being easily borne from its lightness, and of retaining the heat for hours), and blisters, in someinsta nces dressed with mercurial ointment.

D. O. van Franke's treatment of the epidemic at Würzburg was very similar. It consisted of local bleeding, cataplasms, mercurial inunction, with calomel and opium. But we occasionally meet with cases in which, for some reason, mercury is not admissible; with others, where it has been pushed to a certain extent without much benefit, yet it is not advisable to continue its use; and with others still, in which the mineral has been stopped too soon, and, nevertheless, too late to resume it. In each and all of such cases secondary affections are likely to supervene; and in which I have found success to follow upon the employment of quinine with opium, bark with ammonia, chlorate of potash, sesqui-chloride of iron, and such like; together with broths and stimulants, as brandy, &c. When the pulse keeps up for a lengthened period without our being able to lay our finger upon any mischief, the administration of hydrocyanic acid with digitalis and morphia, has been most beneficial. I am firmly convinced that in many instances a fatal issue has occured, either from the disease having been overlooked or its symptoms disregarded until too late; the physician having taken the report from the nurse or friends of the patient, instead of examining for himself; of which the following anecdote is illustrative. Some years since, on the occasion of my first visit to a lady after her confinement, she appeared much surprised at my inquiries and examinations, and then said—"Doctor ——, my former attendant was never so particular. His habit was merely to come up to, and lean over the foot of my bed, and say, 'How are you to-day, Mrs. G.? Any news? Good day.'" Yet even with the more careful physician—but who does not attach that well-merited importance to each or any of the following symptoms; Quick pulse, slight but obscure uterine or iliac tenderness, and pain, rigors, sleeplessness, prolonged after-pains, faulty secretions, &c.—mischief may accrue; for, surely, puerperal inflammation is an insidious malady.

Of all the symptoms of impending inflammation, taken individually, I believe the condition of the pulse to be the most important; for I never yet saw inflammation arise when the pulse had remained steadily at or under 76, during the first week, unless manufactured; however, I have, on more than one occasion, met with it—the pulse being only 84. But if it does not come down immediately on delivery; or, if it keeps up to 100 for seven or eight days—unless from loss of blood, debility, or nervousness—I should be very solicitous for the result. Of course I do not mind its temporary elevation at the coming of the milk. With some females change of posture—as sitting up to nurse, and such like, the mere entrance of the physician, or some other temporary excitement—is sufficient to disturb the circulation; but by calming our patient, in drawing her attention to something beyond herself, and by causing her to lie *flat* on the bed, we shall find, by counting the pulse two or three times for not a shorter period, on each occasion, than one minute, that it will come down gradually to the normal standard. If, however, we let our patients know that we attach any importance to the circumstance, the chances are that quite the opposite shall result, which then may be regarded as a negative proof. The use of wine or other stimulants may cause a similar state; but as we cannot in all cases be aware of such—it being the object of both patient and nurse to conceal it from us—it behoves us to look sharply for other symptoms, and if they be present, matters then become more serious. I have had patients to whom a quick pulse was natural. I was lately attending two ladies, in one of whom the pulse is always intermittent when she is well, but becomes regular when she is ill; and, in the other, the pulse was natural up to the ninth day, when, on visiting her, I found it intermitting and irregular, consisting of a single and double beat with a sort of bruit in the right side of the heart. On the following day it was perfectly natural again, and has remained so ever since. As I looked upon it as a nervous condition—having heard that she had heard some disagreeable news—I ordered her an antispasmodic and sedative draught. Some years since, a lady in this city, caused great anxiety to her physician and his consultants, as after her first confinement her pulse was very quick, and remained so, without any other symptoms of disease, for a lengthened period, no remedy having had any effect upon it; when at last it was discovered that such a condition was natural to her. As she is now remarkable for changing her medical attendant, she takes much

pleasure in watching the anxiety of each new comer as he counts the pulsations, and then laughing at him. During puerperal inflammation, the coming down of the pulse is one of the best signs; still we must not let ourselves be thus led into error, and give, from its occurrence, a favourable prognosis; for it was an axiom when I was a student—and is so at the present day with the practical accoucheur—that not any amendment in this disease is reliable which does not continue for at least twenty-four hours; the pulse is often brought down temporarily by medicine, such as opium, &c., administered for the amotion of the malady, or by the advent of a rigor; and again, I have found it regular and slow at one time of the day, and the opposite at another—and even alternately slow and quick for days, without any assignable cause.

In estimating the value of abdominal tenderness, we must bear in mind that we sometimes have it in a slight degree, with a rigor and pale lochia at the coming of the milk, when generally it is of no moment; nevertheless we must be careful, as it sometimes passes into inflammation; but tenderness, never so slight, under other circumstances, is a more serious affair, and is often—if not arrested at once—the harbinger of a fatal result. With respect to the state of the lochia, in puerperal fever, there is a diversity of opinion—some holding that it is changed or arrested, and others, that it remains natural. Hamilton says:—"That the unchanged and natural flow of the lochia is a peculiar pathognomonic symptom of puerperal fever." My experience would lead me to say that it is not always affected; but more generally is in the hysteritic form. I have never seen a female die of this disease with her breasts fully distended with milk; nor one who had retention of urine, requiring catheterism for days—indeed I have hailed this last symptom as most favourable in peritonitis, apart from the puerperal state. Denman has remarked—"It is remarkable that not one instance has been observed of any woman who had an abscess in the breast being attacked with this fever; nor of any one who, in consequence of her labour, had such an affection of the bladder as to occasion a suppression (query retention) of the urine."

I am of opinion that mischief often arises from the medical man not visiting his patient regularly for the first nine days, and from not continuing his attendance for a much longer period, for I am convinced that in the second week disease not unfrequently arises; perhaps often from the patient making too free, in some way or other, she believing herself free from all bad consequences, as the

doctor has ceased his attendance, of which the following is illustrative:—A lady went on well for nine days, when her physician left her. She, considering herself safe, and not having been cautioned, went out to drive about the 18th day after her confinement; but the result was lamentable, as she was in her grave within six weeks from the birth of her child—the result of phlebitis. There are two very unpromising symptoms which occasionally occur in puerperal fever, and to which I have not seen any allusion made—the one is an abominably, fetid, dark, and pitchy alvine discharge, of so strong and persistent an odour, that it is perceivable for a lengthened period after its removal from the bed-room, and is observed at a great distance before entering it—once experienced it never can be forgotten; the other is a species of delirium, characterized by the abuse of, and bringing false charges against, her nearest and dearest friends—generally accusing her husband of harsh and unkind treatment. Yet such is not to be wondered at when we remember the words of Drs. John Clarke and Armstrong—the one says:—"The indifference of the mother towards her child is a common symptom;" and the latter remarks, "that the mother, so lately all solicitude for her child, now seldom inquired after it; whatever may be the cause of this curious phenomenon, it indicates an extraordinary power of disease, which even in a few hours paralyzes the maternal affections." About 18 years ago, from my knowledge of this latter symptom, I was enabled to give great consolation and comfort to a family, a member of which had died of puerperal inflammation; but who during the last twelve hours of her life made most extraordinary charges of cruelty against her husband, which astonished every one; and, although all professed not to believe in the assertions, still an estrangement took place between them, and was lasting for about a year, when I was called to see her sister, with puerperal hysteritis; and during one of my visits, after her recovery, she spoke of her sister, and of her delirium. On my inquiring if such was the nature of it, she burst out crying, and expressed herself as grateful for my having thus accidentally described it; it is needless to say, that almost from that hour, a more lasting friendship has existed between the widower and his wife's relations and friends.

The following cases are a few of the many illustrative of the evils now drawn attention to, which, from time to time, have come within my knowledge:—

1. Mrs. D.'s seventh labour was complicated with retained placenta

and such alarming hemorrhage (requiring the introduction of the hand) that it was not considered safe to leave her bedside for several hours. Her medical attendant, who resided about two miles from her, did not revisit her for 36 hours; and even then, as well as on the two following days, his visit was merely formal. On the fifth day she complained of some abdominal uneasiness, with quick pulse and fever, but no milk was secreted, and the breasts were flaccid; ordered to be stuped. On the sixth day symptoms very much aggravated; given mercury with opium, with repetition of stupes. On the seventh day delirious, on which evening she expired.

2. Mrs. G., after her fourth labour, progressed favourably up to the fourth day at evening, when she had a severe rigor, followed by much abdominal pain and tenderness. Her physician, who resided about three miles distant, was immediately sent for; but, instead of at once responding to the call, he sent a recipe, with some trivial directions to the nurse-tender, and did not visit the lady till eighteen hours afterwards, when he found her so very dangerously ill that he called out for further advice, after which two eminent medical men saw her. Appropriate and energetic treatment was then employed, but, alas, too late, for she died on the seventh day, having been comatose for twelve hours previous to her demise. No alleviation in her symptoms took place at any time.

3. Mrs. N., on the morning of the third day after her second labour, was seized with a rigor and severe abdominal pain and tenderness. Her husband went at once to her physician, who, having been out all night at a party, was in bed; he did not visit her, but merely directed that she should be stuped, and to have a warm drink. At the end of twelve hours he was again called, when he sent a less experienced man to visit her; and on the following day a large consultation was held, but all to no avail, for time had done its work, and she died delirious on the succeeding day at noon.

4. Mrs. B., during the first week after the birth of her third child, had some obscure inguinal tenderness, accompanied by uneasiness in the part, which had been overlooked; and even where the more marked symptoms of lurking mischief—such as irregular rigors, quick pulse, scanty and fetid lochia, with sleeplessness—had been continuing for days, the case was lightly treated, having been looked upon as merely ephemeral fever. However, it eventuated in phlebitis and arthritis, and she died in a most pitiable state at the end of five weeks.

5. Mrs. M., on the third day after the birth of her second child, complained of some pain and tenderness in the left inguinal region. The medical attendant, although his attention had been drawn to it by a very experienced nursetender, made little of it, and said it was the coming of the milk, yet the breasts did not point out such to be at all likely. The nurse of herself fomented her well; but on the following day she was so much worse that further advice was had, after which very active and energetic measures were adopted, which saved this lady's life; but her recovery was very tedious, and for days her life was in the balance.

6. Mrs. B., in the first week after the birth of her fifth child, had, continuing for days, irregular rigors, perspirations, heats and chills, dark scanty and fetid lochia, and sleeplessness, which her physician treated as ague. However, as matters, instead of improving, were becoming worse, her friends, contrary to his wish, had a pure physician to see her, who immediately placed his finger over the seat of mischief—inflammation in the left ovarian region. Suffice it to say, appropriate and active treatment was then employed, after which this lady, whose life had been so long in jeopardy, slowly but completely recovered.

7. Mrs. S.'s case, after her first confinement, was so very similar to Mrs. B.'s, even to the fact of the disease having been discovered by a pure physician, that I shall not enter into the particulars further than to state that, unfortunately, more time had elapsed before the *eclaircissement* took place, and the issue was fatal.

8. Mrs. W. was delivered naturally of her second child, some thirty miles from Dublin. On the fourth day after its birth she felt some uneasiness in the left inguinal region, to which little or no attention was paid. However, as matters were not improving, and as unequivocal symptoms of phlebitis were appearing, an accoucheur of eminence in Dublin was brought down to see her, who at once discovered the malady, and by active and appropriate treatment rescued her from the grave; but she had a very anxious and protracted recovery. She has had many children since, followed by good recoveries, and is now married to her second husband.

The following cases have been selected from several others illustrating the facts now laid down by me, as also the advantages derivable from preventive and early treatment:—

ACCIDENTAL HEMORRHAGE—HAND PRESENTATION—VERSION.

1. Having been summoned hurriedly to visit Mrs. O., who was bleeding profusely, when in labour of her fourth child, and having satisfied myself that the hemorrhage was of the accidental species, I at once proceeded to rupture the membranes; but as in so doing I found an arm presenting, I, without any delay, passed on my hand, turned, and brought a living male to the world. As soon as possible after delivery she commenced taking pills, containing small doses of blue pill with opium, every fourth hour; which treatment was continued up to the third day, when it was stopped, as no unfavourable symptoms had appeared, and as the milk was well secreted. She rapidly convalesced, and nursed her baby for the usual period. About three weeks after her confinement she was attacked severely with cholera, which was then prevalent in Dublin, from which she recovered, under the judicious treatment of Mr. George H. Porter.

BRONCHITIS.

2. Mrs. B. was delivered of her thirteenth child (a male) by the lever,

in consequence of ineffective and harassing uterine action in conjunction with a severe attack of bronchitis.

Immediately after delivery she was ordered blue pill, ipecacuanha, and Dover's Powder, in pill, every third hour, together with stimulating liniments to the chest. On the third day, as the milk was well secreted, the chest was freer, and no unfavourable symptom having arrived, the pills were discontinued, and for them an expectorant mixture was substituted. She had an easy convalescence, and nursed her baby for nine months.

UTERINE DISEASE—HEMORRHAGE.

3. Mrs. R. had a very tedious and difficult first labour, requiring the use of ergot of rye, and subsequently the employment of the lever for its completion in the birth of a large male child. Before the expulsion of the placenta, severe hemorrhage set in; which continued for some time after the extrusion of that viscus, but was arrested by cold applications of vinegar and water, cold water enemata, and large doses of tincture of opium. Shortly after labour she commenced taking small and repeated doses of blue pill and opium, which were continued up to the fourth day, when, as the milk was well secreted and no unfavourable symptom having arrived, they were stopped. She nursed her baby.

This lady had been married for many years without ever having been pregnant, in consequence of uterine disease, accompanied by frequent hemorrhages; but she proved *enceinte* before the complaint had been completely removed, having neglected my repeated injunctions to live apart from her husband until after that event.

HEMORRHAGE—UTERINE DISEASE.

4. I was summoned, in consultation, to see Mrs. G., who was bleeding profusely after the birth of her fifth child. The hemorrhage was arrested by means of cold water, cold water enemata, cold vinegar and water applications, cold water vaginal injections, with large and repeated doses of tincture of opium. As this lady was subject to hemorrhage in all her former labours—upon two of which puerperal inflammation followed; and as there was evidence of a diseased condition of the os uteri, she was put on small doses of calomel and opium, which were repeated at intervals up to the third day, when, as the milk was abundantly secreted, and no bad symptoms having appeared, all treatment was abandoned and she continued to nurse her baby, having had a very good recovery, rather a contrast to her former convalescences which were always slow. In her subsequent labours hemorrhage was prevented by appropriate treatment.

BRONCHITIS.

5. Mrs. L., when in labour of her ninth child was seized with a very severe attack of bronchitis. Immediately on the birth of the baby (a female) she was given small and repeated doses of blue pill, ipecacuanha, and Dover's Powder, and a stimulating liniment was rubbed, twice daily, to the chest. On the third day, as the chest was much freer and the milk was well secreted, the pills were given at longer intervals; and on the following day, as no unpleasant symptom had appeared, an expectorant

mixture was substituted for them. She continued to nurse her baby; and the chest affection was completely removed. She has had another child since, after an easy labour, which she also nursed.

ARM PRESENTATION—VERSION.

6. Mrs. C., when in labour of her sixth child, sent for me in haste, as the waters had escaped in great quantity. Having, on examination, found an arm presenting and the funis prolapsed, I immediately turned and delivered her of a male child, which was very weak; but by means of a warm bath and frictions he was completely resuscitated, and is now a very healthy lad. The prophylactic (mercurial and opium) treatment was employed, as in the former cases, until the evening of the third day, when the milk was well secreted. She had a rapid recovery, never having had an unfavourable symptom.

ARM PRESENTATION—VERSION.

7. In Mrs. M.'s second labour the child (a male) presented with an arm, and was stillborn. Version was performed, but with some difficulty, as the waters had drained off some hours. Immediately after delivery she was given small and repeated doses of blue pill with opium, until the third day, and then stopped, as the milk was well secreted and no unfavourable symptom had appeared.

HEMORRHAGE—UTERINE DISEASE.

8. Mrs. B.'s third labour set in with violent accidental hemorrhage, which was arrested by the usual means; but after delivery the bleeding returned; and finally yielded to cold affusions and large doses of opium. She also had uterine disease. As soon as possible afterwards small and repeated doses of blue pill with opium were administered, and continued to the fourth day; but then stopped, as there was a good supply of milk and not any unfavourable symptom had manifested itself. She recovered quickly, and nursed her child (a boy) for the ordinary period.

BRONCHITIS—HEMORRHAGE.

9. Mrs. C.'s first labour set in with a severe attack of bronchitis, and was followed by hemorrhage, which was controlled by cold applications and cold water and opiate enemata. Within a few hours after delivery she was ordered small doses of blue pill, ipecacuanha, lactucarium, hyoscyamus, and bismuth, every third hour. As, on the third day the chest affection was lessened, there was not any indication of abdominal inflammation—the breasts were well distended with milk; an expectorant mixture, consisting of ipecacuanha, wine, chloric ether, paregoric elixir, and almond emulsion, was substituted for the former treatment, which was then given up. She had an excellent recovery, and nursed the baby for the usual period. This lady was delirious as the head was passing through the os uteri—a symptom well known to the practical man not to be dangerous, but far from uncommon, especially in primparous cases; nevertheless, not very long since, a medical man being much alarmed at its occurrence in a case, and ignorant of its cause and innocuity,

absolutely perforated the head of a living child. Mrs. C. lost her life in a subsequent confinement from puerperal inflammation, induced by a chest affection, under the care of another medical man who neglected the adoption of prophylactic or any other treatment until too late.

STIMULANTS—HEMORRHAGE—EPIDEMIC.

10. Mrs. D., a lady of highly nervous and excitable temperament, when in her second labour (of a boy) was given much brandy by her nurse-tender. Immediately on the termination of the second stage severe hemorrhage set in, which was arrested by the extrusion of the placenta, and applications of cold water, cold water enemata, and large and repeated doses of tincture of opium. As soon as possible on the completion of labour—in consequence of the above complication, as also *post partum* inflammation being then epidemic in this city—I ordered her small and repeated doses of calomel with opium and bismuth, to be continued up to the secretion of milk, and till all likelihood of inflammation had passed over, which arrived on the evening of the third day. The pulse, however, kept up for a few days; but came down under the use of prussic acid, morphia, and digitalis. She nursed the baby for three months, when it died, in the country, from pneumonia.

TEDIOUS LABOUR—LEVER—HEMORRHAGE.

11. Mrs. H., when thirty-six hours in labour of her second child (a male), was delivered by the lever, in consequence of want of sufficient uterine action, stimulating enemata, three half-drachm doses of ergot of rye, and other means having previously failed to effect the desired object. The membranes had ruptured early in labour, and the pains were not at any period good. Shortly after the expulsion of the placenta pretty smart hemorrhage set in, which yielded to cold applications and a large dose of tincture of opium. Very soon afterwards she was given small and repeated doses of blue pill, with opium and bismuth; which treatment was given up on the third day, as there was a good secretion of milk, and matters in other respects were progressing favourably; she nursed her baby for the ordinary period. This lady was four days in labour with her first child, which was delivered by the crotchet.

HEMORRHAGE.

12. Mrs. T.'s labour was so quick that the child (a male) was born as I entered the house, although there had been no delay in sending for me. Severe hemorrhage set in almost consentaneously with the birth of the baby, which continued after the extrusion of the placenta, but finally yielded to cold affusions, cold enemata, and large and repeated doses of laudanum. As soon as possible afterwards she was ordered small doses of blue pill, with bismuth and opium, every fourth hour, until the milk was fully secreted, and that there was not a likelihood of inflammation, which occurred on the evening of the third day, from which time she nursed the baby for the ordinary period.

HEMORRHAGE.

13. Mrs. C.'s labour was complicated with severe hemorrhage, shortly

after the expulsion of the placenta, but it was arrested by cold applications of water, vinegar and water, cold water enemata, and large and repeated doses of tincture of opium. As, in addition to the hemorrhage, this lady had a severe attack of puerperal inflammation after the birth of her first child, she was at once put on small and repeated doses of blue pill, with bismuth and opium, which were given up on the fourth day, as no unfavourable symptom had arisen, and the milk was secreted. She nursed her child (a girl) for the customary period.

UTERINE DISEASE—TENDENCY TO HEMORRHAGE.

14. Mrs. L., after the birth of her third child, had been ill for some time, under the care of a physician of eminence in this city. She had unmistakable symptoms of uterine disease, even to retroflexion of the organ, yet, strange to say, she was treated for neuralgia. She then became a patient of mine; but, before the disease had been completely removed, she became *enceinte*, and, consequently, all further treatment for the malady was postponed until after her delivery. As she had on former occasions suffered from *post partum* hemorrhage, I gave her ergot of rye as a preventive, just as the head was on the perineum, which had the desired effect. However, as the uterine disease still existed, I ordered her small and repeated doses of blue pill, with bismuth and opium, for a couple of days; but treatment was then abandoned, as the milk was well secreted, and no unfavourable symptom had appeared. She nursed her baby for a few days, until a wet-nurse was procured, as she never intended to continue doing so.

HEMORRHAGE—RETAINED PLACENTA—HAND INTRODUCED.

15. Mrs. G. was unexpectedly seized with labour of her second child (a male) at a distance of seven miles from Dublin, in which condition, late on a Sunday evening, she drove into the city; and, having been cold and fatigued, she was induced to take some hot brandy punch. The labour was very rapid, and followed by very severe hemorrhage and retained placenta, requiring the introduction of the hand for its removal. Almost immediately after delivery she was ordered small and repeated doses of calomel with opium. On the morning of the second day the pulse was quick, the lochia pale and scanty, with some obscure tenderness in the left inguinal region, discoverable only by deep pressure with the points of the fingers; six leeches were at once ordered, and the pills to be taken at shorter intervals. However, her nurse-tender, considering her opinion better than the doctor's, persuaded the lady that she was going on well, and that all treatment ought to be given up; to which she foolishly assented; in consequence of which, towards the end of the day, I was summoned hurriedly to visit her, when, on my arrival, I found the fever far higher, the pulse flying, and the tenderness very much increased. I therefore ordered twelve, instead of six, leeches to be applied, without any delay, to be followed by repeated poultices of linseed meal; and, in addition to giving the pills, assiduously to rub mercurial ointment into the axillæ and inguinal regions night and morning. Under this treatment the inflammation was subdued, ptyalism having been previously produced. She had bad diarrhea for some days; the pulse kept up for a fortnight

after delivery, when an abscess formed in the sole of the left foot, which was opened, after which she had tonics and nourishing diet. Her milk was secreted, and she nursed the baby for several months. I have no doubt that the abscess was of a phlebitic nature, and was induced by the delay in treatment, aided by her going out too soon, contrary to advice. This lady has since given birth to four more living children, without any untoward circumstance.

TWINS—DROPSY—HEMORRHAGE.

16. Mrs. G., when pregnant for the second time, was prematurely confined, at the eighth month, of twins (males, presenting with the head). Subsequent to the expulsion of the placenta, which was thrown off at the usual period, very severe hemorrhage set in, which was controlled by cold affusions, cold water and vinegar applications, cold water enemata, with large and repeated doses of tincture of opium. In consequence of the bleeding, and the anasarcous condition of the legs, genitals, and entire abdomen, from which she had suffered for the last two months of utero-gestation, I ordered her to take small and repeated doses of calomel, with opium and James's Powder, commencing immediately after delivery. On the second day the pulse was very quick and wiry, the tongue furred, the lochia suppressed, together with exquisite pain coming on in paroxysms, and much tenderness over the uterus. She was at once bled to syncope, which gave her ease for the present; and she was enabled to lie down, which previously was impossible for her to do; the pills were given in larger doses and at shorter intervals, and mercurial ointment was rubbed, night and morning, into the axillæ and inguinal regions. Diarrhea set in in a few days, but not before the mineral had affected the system (the mouth having been made sore), and the inflammation removed. Milk was not at any period secreted.

ARM PRESENTATION—VERSION.

17. Mrs. P., a young and inexperienced lady, being a stranger in Dublin, intrusted herself to the care of a midwife. After several hours of violent but ineffectual labour, having been sent for, I found, on examination, the membranes ruptured, and an arm low down in the vagina. As the pains were violent, and the uterus contracted upon the body of the child, I at once administered to her a full opiate; and, after its action, I proceeded without further delay to turn, which after some difficulty I succeeded in doing, and brought a stillborn male to the world. She was then given small doses of blue pill with opium, every fourth hour. On the second day, as symptoms of hysteritis set in with suppressed lochia; she was given the pills, with the addition of calomel at shorter intervals, 12 leeches were applied over the uterus, and followed by relays of linseed poultices. Under this treatment the disease was removed in a couple of days; but the milk was not secreted. Diarrhea set in after the system had been affected by the mineral, and was troublesome for some days, after which it yielded to the ordinary treatment.

PREMATURE LABOUR—ARM AND FUNIS PRESENTING—HEMORRHAGE.

18. Mrs. G.'s seventh labour was premature at the seventh month, the

child—a boy—presenting with the arm, complicated by prolapsed funis, was delivered by version, but stillborn, it evidently having ceased to live for some time previously; a great amount of hemorrhage preceded and followed upon delivery, which was arrested by large and repeated doses of tincture of opium, together with cold applications. As soon as the fatigue of labour had passed off, she was given small and repeated doses of calomel with opium. On the second day some uneasiness, accompanied by slight tenderness on pressure, over the uterus, was experienced, which yielded to the mercurial treatment and stuping. The lochia were natural in appearance, but scanty; the mouth was slightly touched, and the milk was abundantly secreted on the fourth day. It is rather unusual for hemorrhage to continue after version; and in this case I am inclined to think that it was kept up by the diseased condition of the os and cervix, which were both inflamed and ulcerated—another predisposing cause to the hysteritis above alluded to.

UTERINE DISEASE—INNUPTA.

19. Miss S. came up to Dublin, from the south-west of Ireland, to be confined of her first living child—a female. Early in the preceding year she was under treatment for severe inflammatory congestion and ulceration of the os and cervix uteri, with enlargement of the organ; evidently produced by arrest of sub-involution of the uterus, consequent upon abortion. Almost immediately on the removal of the disease she proved pregnant, and suffered intensely from sickness of stomach during the entire period of gestation. In a few hours after the birth of this child she was given small and repeated doses of blue pill with opium. On the second day she had some slight uterine tenderness, without any arrest of, or other change in, the lochia; which, however, yielded to a persistance in the use of the pills, in conjunction with stuping and bran poultices. The milk was fully secreted on the fourth day, and she nursed the baby for about a week, being then obliged, from the circumstances of her case, to hand it over to a wet-nurse.

EPIDEMIC.

20. Mrs. N., residing a short distance from the city, after a very tedious first labour, was naturally delivered of a male child. As many deaths were then occurring in her immediate neighbourhood, as well as in the city, from puerperal fever—then epidemic—I ordered her to have small and repeated doses of calomel with opium, commencing immediately on delivery. On the evening of the same day she complained of great pain over the uterus, together with much tenderness upon pressure. The lochia had ceased. Her pulse, which had not come down after delivery (almost always a sign foreboding mischief), was very rapid, bounding, and wiry. I at once bled her to fainting; having first placed her in the erect position. The calomel and opium pills were given in larger doses and at shorter intervals; mercurial frictions, hot and dry bran poultices having been also employed. On the following day she was much better, and continued to improve from day to day. The milk was well secreted on the fifth day, when she nursed her baby, and continued to do so for the ordinary period. A severe attack of diarrhea set in; but not before the

mercury had removed the disease and affected the system; it, however, yielded to treatment. Her pulse kept up for some days, but came down under the use of digitalis with Dover's Powder.

UTERINE DISEASE—EPIDEMIC.

21. Mrs. E. had a very tedious labour with her first child—a male—which was brought into the world by the lever. As this patient had on a couple of occasions aborted, as there was reason to believe in the existence of uterine disease, as the pulse had not come down after delivery, and as puerperal fever was then epidemic, she was, without any delay, given small and repeated doses of blue pill, calomel, and opium. On the second day the pulse was very rapid and wiry. There was some deep-seated tenderness in the left inguinal region, only discoverable by steady pressure with the points of the fingers; the lochia were scanty, fetid, and bad coloured. Eight leeches were at once applied, and followed by repeated relays of linseed-meal poultice; the pills were given at shorter intervals, and mercurial ointment was rubbed daily into the axillæ and inguinal regions. On the eighth day the pulse had come down to the natural standard, all inflammation had been subdued, and the milk was fully secreted. This female, on a subsequent occasion, fell into other hands, but died of puerperal inflammation; remedial measures not having been employed till too late.

UTERINE DISEASE.

22. Mrs. D. came to Dublin, from a midland county in Ireland, for her third confinement. She was seized with labour in the train on her way up. After the birth of the child—a female—some slight draining set in, which ceased on the placenta coming away. As this lady had been under treatment for uterine disease, but proved pregnant before its complete amotion, and as the pulse kept up after delivery, she was without delay put on small and repeated doses of calomel, blue pill, and opium. On the following day a very sharp attack of hysteritis set in, with arrest of the lochia. The pulse was very quick, full, and bounding. She was placed erect in bed, and bled to fainting; the pills were given in larger doses and at shorter intervals. Hot bran poultices having been kept constantly employed over the uterus, in a few days the disease was completely removed, the lochia had returned naturally, but milk was not secreted. A severe and troublesome diarrhea set in, which eventually yielded to treatment; but the mercury had previously affected the system, as evidenced by a sore mouth, &c. The uterine disease was long since removed; and this lady has had four children, without any return of the inflammation, or of the uterine affection.

EPIDEMIC.

23. Mrs. R. had a very tedious confinement with her first child (a boy), apparently caused by neglected false pains, terminating in labour. Stimulating enemata, ergot of rye, and other means having failed to effect delivery, recourse was at length had to the lever. Almost immediately afterwards, this lady was given small and repeated doses of

calomel and opium. On the evening of the second day severe hysteritis set in, the lochia having been suddenly suppressed. She was then placed in the erect posture, and bled to fainting. Pills were continued in larger doses, and at shorter intervals. During the first two or three days, as tenderness continued, small relays of leeches, followed by linseed-meal poultices, were employed; and finally a blister was required before all uneasiness was removed; but then she rapidly recovered—the system having been affected by the mineral, as evidenced by the state of the mouth, breath, &c. Diarrhea then set in, but was gotten under by ordinary treatment. Mrs. R. had rather severe secondary hemorrhage on the eighth day after her second accouchement, and subsequently was under treatment for uterine disease. She has had two children since, and is now in perfect health, and residing in the west of Ireland.

UTERINE DISEASE—HEMORRHAGE.

24. Mrs. D. suffered severely from hemorrhage after the birth of her first child (a boy), but which eventually yielded to cold affusions, cold water enemata, cold water vaginal injections, together with large and frequent doses of tincture of opium. In consequence thereof, as also of her having been cured of uterine disease following abortion shortly before she conceived of this child, she was, immediately upon delivery, placed on small and repeated doses of calomel and opium. On the morning of the third day the pulse was very quick and wiry; she complained greatly of tenderness upon pressure over the uterus, and of pains of a spasmodic and periodic character. She had her legs drawn up, not being able to bear the pressure of the bedclothes; and the lochia were suppressed. Ten leeches were at once applied over the uterus, and followed by relays of linseed-meal poultices; and the pills, increased in strength, were given at shorter intervals. On the following day she was somewhat better, the tenderness being less, but not removed. Six more leeches were employed, followed, as before, by linseed-meal poultices. On the sixth day, as all unpleasant symptoms had been removed, the milk being fully secreted, the mouth slightly sore, all medical treatment was abandoned. She had not any diarrhea, and nursed her baby for several months.

PREMATURE LABOUR—HEMORRHAGE.

25. Mrs. W., at the end of the seventh month of her fourth pregnancy, had a very smart attack of rheumatic gout, which yielded to appropriate measures, but at the termination of the eighth month labour was induced by neglected diarrhea, caused by an over-dose of castor oil. The child, a female, presented with a foot, and died 24 hours after its birth, healthy respiration not having been established. Immediately upon the expulsion of the placenta very brisk hemorrhage set in, but was arrested by cold applications, together with large and frequent doses of tincture of opium. As soon as was advisable afterwards she was given small and repeated doses of calomel, with bismuth and opium. On the second day she complained of tenderness on pressure over the uterus, but only when performed deeply by the points of the fingers. The

lochia were pale and scanty. The pulse was very quick and compressible; the tongue foul. Eight leeches were then applied, followed by linseed meal poultices, and the pills were repeated at shorter intervals. On the following day, the tenderness not having been removed, the leeching and poulticing, together with the pills, were repeated. On the fifth day, as the mouth was sore, all inflammation had been removed, and the breasts were distended with milk, all further medical treatment was given up.

EPIDEMIC—VISITORS.

26. Mrs. B., during her second pregnancy, for some days prior to the advent of labour, suffered very much from false pains, induced by over anxiety and fatigue, and for which she neglected to have advice. The labour was tedious, irregular, and very painful; it passed off completely for two or three hours, on two occasions, but was eventually terminated through the agency of ergot of rye. In consequence of the character of her labour, and as puerperal inflammation was then epidemic, she was ordered to take, as soon as possible after delivery (in powders), small and repeated doses of calomel, opium, and bismuth. On the evening of the second day, as there was some tenderness over the uterus, accompanied by spasmodic pains, the lochia pale and scanty, the pulse quick, and the tongue foul—eight leeches, followed by linseed-meal poultices, were applied, and the powders repeated at shorter intervals. On the following day, the tenderness being still present, but not to such an extent, six more leeches, and poultices as before, were employed, together with a repetition of the powders. By this treatment the inflammation was subdued, the mouth was slightly sore, and the milk was fully secreted on the fourth day. She did not suffer from diarrhea. The child was very weakly when born, and only lived for about 24 hours. This lady had been much excited by visitors on the day of, and after, her confinement.

STIMULANTS—HEMORRHAGE.

27. Mrs. S.'s first labour was very tedious, from early rupture of the membranes, and eventuated in the birth of a stillborn female, presenting with the breech. On visiting her shortly before delivery I found her hot and feverish, the effect of some stimulant which the nurse-tender had given her. Almost consentaneously with the expulsion of the placenta, which was thrown off about the usual period, very severe hemorrhage set in, which was subdued by cold affusions, cold water enemata, cold water vaginal injections, and large and repeated doses of tincture of opium. As soon as prudent afterwards she was ordered small and repeated doses of blue pill, with bismuth and opium. On the following day, at evening, there was much pain, with tenderness, on pressure, over the fundus uteri, the lochia were pale, fetid, and scanty; the pulse was rapid and compressible, and the tongue foul. Eight leeches were then applied, and followed by linseed-meal poultices. Pills repeated at shorter intervals, with the addition of calomel. As the pain and tenderness were less, but not completely removed, on the following day, six more leeches were applied, with a repetition of the poultices and pills. On the fourth day, all unfavourable symptoms having been removed, the mouth being sore.

and the breasts distended with milk, all further medical treatment was abandoned. She had not any diarrhea, nor tendency to it. I am credibly informed that this lady died, after a subsequent confinement, from phlebitis, under the care of another physician, who employed neither prophylactic nor any other treatment until too late to save her.

UTERINE DISEASE—ABORTION—EPIDEMIC.

28. Some years since I was summoned hurriedly to visit Mrs. H., then residing about five miles from Dublin. On my arrival, I found that she had just aborted at the eighth week of utero-gestation. On investigating her case, I learned that during each year of the previous six she had aborted four or five times, but at different periods of pregnancy. That this state of things was produced by uterine disease I had no doubt; for, in fact, ulceration was discoverable at the os, by the finger, when removing some clots from the vagina. In consequence of this complication, and as puerperal inflammation was then epidemic, and very fatal, I, without any delay, ordered her small doses of blue pill, with opium, every fourth hour. On the next day the pulse was very quick and wiry; the tongue white and furred; some tenderness was discoverable, by deep and steady pressure with the points of the fingers, in the right inguinal region. Six leeches were then applied, and followed by relays of linseed-meal poultices; and the pills, with the addition of calomel, were given at shorter intervals. The lochia were natural. On the third day the pulse had come down a little in frequency, but was not altered in character, and the tenderness was somewhat less. Six more leeches were applied, and followed by poultices as before. Diarrhea had set in, but was arrested by astringents, and by arrest of the pills, in lieu of which she had others containing small doses of calomel, masked by bismuth and opium. In the evening of same day one of the leech-bites was bleeding profusely, and had resisted all the ordinary means of arresting the flow, which, although the inguinal uneasiness still continued unabated, I thus proceeded to do:—I passed a fine needle through the bite, and formed a twisted suture by means of some fine thread. This is always a sure and safe remedy, and may be employed at the most tender age. The tongue was typhoid; the pulse quick and weak; the lochia scanty, brown, and fetid; she was restless; had had irregular rigors during the day; in fact, there was every evidence of blood-poisoning. A blister was applied, and dressed with mercurial ointment. The pills were then stopped, and she was ordered infusion of bark, with chlorate of potash, and sesqui-chloride of iron, as also beef-tea. After a few days under this treatment she began to improve, and finally recovered; but for fully ten days a tumour was to be felt plainly in the right inguinal region, which I thought would have terminated in pelvic abscess; but it gradually disappeared. About two months subsequently this lady visited me, when, on examination, I found the womb much enlarged, but not hardened; its os and cervix being very much ulcerated, of a dusky brick colour, and of a malignant aspect. On her next visit matters looked more unpromising, when I procured some of the discharge from the ulcer, which my friend, Mr. Maurice Collis, very kindly examined under the microscope, and

pronounced the disease to be "soft cancer of a very rapid growth," thereby confirming my diagnosis and prognosis, which I had previously stated to her husband. It is worthy of remark here, that a similar specimen was sent for examination to another microscopist, who stated, that "it presented no abnormal feature." As her husband and friends were not quite satisfied, I proposed a consultation, and two of the then leading men in the profession saw her with me, neither of whom would confirm my opinion, but advised a continuance of the treatment she had been undergoing; but I still adhered to my own opinion. After a very short further trial, I stated to her husband that, as I still considered her case hopelessly incurable, I could not conscientiously continue my attendance, and advised all further treatment to be abandoned, with the adoption of a nourishing and tonic diet; but as they yet had hope, or rather "hoped against hope," she returned to her former medical attendant, who denied that she had then or ever had any disease of the womb. Suffice it to say, that in a very few months afterwards her sufferings became so intense that even her very astute physician (whose ignorance I firmly believe was the cause of all her illnesses) was obliged to change his opinion, when very shortly after "she was numbered with the dead."

EPIDEMIC.

29. Mrs. F. came up to Dublin from the west of Ireland for her first confinement, it having been supposed that she had deformity in the pelvis, but for what reason I cannot say. Her labour was very tedious, requiring the use of ergot of rye, and, finally, the lever for its completion in the birth of a male child, which was very weak at birth, and died within the week of a very severe attack of erysipelas. As puerperal inflammation was then epidemic, her labour difficult and harassing, and as the posterior wall of the vagina was thickly studded with warty growths very much of a syphilitic appearance, I ordered her to have immediately after delivery small and repeated doses of calomel, with opium and bismuth, in pill. On the third day, although there was some tendency to the coming of the milk, there was a great amount of tenderness over the fundus uteri; the pulse was very quick and hard; the lochia scanty, ill-coloured, and fetid. Eight leeches were at once applied, and followed by relays of linseed-meal poultices, and the pills were given at shorter intervals. On the following day the tenderness was somewhat less; six more leeches were applied, and followed, as before, by linseed-meal poultices, and the pills were repeated. In a couple of days after, the mouth was sore, the breasts were distended with milk, the lochia had returned healthily, and all inflammation, together with the vaginal warts, had disappeared. She had not diarrhea till the second week, and then caused by improper and forbidden diet.

EPIDEMIC—TEDIOUS LABOUR.

30. Mrs. A. had a very tedious and harassing first labour, terminating in the birth of a female child, by means of the lever. As about that time I had met with some slow recoveries in childbed, and as puerperal

fever was then epidemic, I prescribed for her pills of small doses of calomel with opium and bismuth, to be taken every fourth hour, commencing immediately after the termination of labour. On the following day there was much tenderness and pain over the fundus uteri, the lochia pale, together with all the ordinary symptoms of hysteritis. Eight leeches were at once applied, and followed, as in other cases, by relays of linseed-meal poultices. The pills were given at shorter intervals; and mercurial ointment was rubbed twice daily into the groins and armpits. On the next day she was much better; but as the tenderness, to some amount, remained, six more leeches were applied, and the poulticing continued. On the fifth day all treatment was abandoned, as all unpleasant symptoms had been removed. The mouth was slightly mercurially sore, and the milk was secreted. She had not diarrhea at any time; and she nursed her baby for the usual period.

EPIDEMIC—FALSE PAINS, ENDING IN TEDIOUS LABOUR.

31. Mrs. S. came up to Dublin from the County Cork for her first confinement. For some days prior, and up to the advent of labour, she suffered very much from false pains; for which she neglected to have advice. Her labour was tedious (32 hours), requiring for its completion the use of the lever, by which a very fine large living boy was born. In consequence of the character of her labour, and the then prevalence of puerperal inflammation, I ordered her to take a pill containing a small dose of calomel with opium and bismuth, every fourth hour, commencing immediately after delivery. During the first night she got out of bed to get a drink, as the nurse slept so soundly that she failed in awaking her. On the following morning she was hot and feverish, with a very quick and wiry pulse; great pain, with tenderness, existed in the left inguinal region; lochia were suppressed; and, before my visit, she had had a rather severe rigor.

Ten leeches were at once applied; followed by linseed-meal poultices, renewed from time to time—which, in such cases, act as a perpetual stupe, as well as by keeping up the bleeding from the leech-bites. The pills, of calomel, opium, and bismuth, were given in larger doses, and at shorter intervals, and mercurial ointment was rubbed twice a day into the axillæ and groins. On the fifth day all treatment was discontinued, as all symptoms of disease had been removed—the milk was well secreted, and the mouth was slightly sore from the mineral. She had not any diarrhea; but continued to nurse her baby.

HEMORRHAGE—VISITORS.

32. Mrs. W.'s first labour was very tedious, requiring the use of the lever for its completion. Much hemorrhage set in after the expulsion of the placenta, which was thrown off at about the usual period. As soon as possible after delivery small and repeated doses of blue pill with James's Powder were administered; no opium was added, as the bowels were much constipated. On the second day diarrhea set in from some error in diet, and slight deep-seated tenderness was discovered in the right iliac region, by steady pressure with the points of the fingers; but which ordinary pressure with the flat of the hand failed to recognize.

The pulse was very quick and wiry; the tongue whitish and creamy; lochia pale. The bowel attack was removed by astringents; six leeches were applied, and followed by linseed meal-poultices. For the pills were substituted others containing small doses of calomel, guarded by bismuth and opium. Mercurial ointment was also twice daily rubbed into the axillæ and the groins. In a couple of days, as all the bad symptoms had disappeared—the milk being well secreted—all treatment was suspended; but the mouth was not sore. On the sixth day she was much excited by visitors, who were admitted to her room contrary to my orders. The following day I saw her, when the pulse was very quick, but weak and compressible; the lochia were discoloured and fetid. She had not slept during the night; but was restless, and had a rigor. Her then symptoms caused me much anxiety, as I feared she was about to have pyemia; however, not the least tenderness, after the most minute and searching examination, was discoverable. She was at once given bark, with chlorate of potash and sesqui-chloride of iron; and, subsequently, prussic acid, with morphia, to lessen the frequency of the pulse, which had the desired effect. After a few days she had a mild attack of phlegmasia dolens, commencing with pain and tenderness in the calf of the right leg, of which she rapidly and completely recovered; and was enabled to nurse her child—a very fine boy. I think there can be little doubt that but for the very active measures so early adopted in the first instance, this case should not have terminated so favourably. This lady has since had another child (a female), after a very quick labour, from which she had a rapid and good recovery. One of her sisters has had, on two or three occasions, very severe attacks of phlegmasia dolens, evidently of a phlebitic nature; and on one occasion (the last) her recovery was, for some time, considered hopeless.

### UTERINE DISEASE—HEMORRHAGE.

33. Mrs. R., a lady of a very highly nervous temperament, came to Dublin, from the North of Ireland, for her first confinement, which was very tedious. Consentaneously with the expulsion of the placenta a pretty brisk hemorrhage set in, but was subdued by cold applications, cold water enemata, and tincture of opium in large and repeated doses. As soon as the fatigue of labour was over I ordered her to have small and repeated doses of blue pill, with bismuth and opium. On the morning of the third day there was some abdominal uneasiness, with obscure uterine tenderness, discoverable only by deep pressure with the points of the fingers; the lochia were suppressed, but there was not any tendency to the secretion of milk. The pills, with the addition of calomel in small doses, were repeated as before; the entire abdomen was well stuped, and kept covered with bran poultices. In a few days all unpleasant symptoms had disappeared; the lochia had re-appeared healthily, but milk was not secreted. It was not considered requisite to push the mercury so as to affect the system, nor was there any diarrhea. Early in the preceding spring Mrs. R. consulted me on account of sterility, she having been married some years without ever having proved pregnant, evidently caused by endo-cervicitis, for, almost immediately upon its removal, she became *enceinte*.

INTRODUCTION OF HAND FOR RETAINED PLACENTA.

34. I was called by my friend, Dr. ——, to see, with him, a Mrs. D., in whom the placenta had been retained for a couple of hours, in her fourth labour. The hand was introduced with some difficulty, as the os was much contracted, and the placenta was not detached, from inertia; it was, however, then easily removed, without any hemorrhage having followed. Before leaving, I recommended my friend to commence giving her, at once, small doses of calomel, blue pill, with opium and bismuth, every third hour, and to look out for symptoms of inflammation. On the evening of the second day the pulse was found quick and wiry, the lochia suppressed, with much uterine tenderness and pain. Eight leeches were then applied, and followed by bran poultices, renewed from time to time as they cooled; the pills were repeated. On the fourth day, as all inflammation had been removed, as the milk was fully secreted, the lochia had re-appeared, and the mouth was slightly sore, all treatment was given up. She had not diarrhea at any period of the illness.

ARM PRESENTATION—VERSION.

35. I was carried away hurriedly, one evening, by my friend, Dr. ——, to visit a lady (Mrs. G.) with him, at some distance from Dublin, in labour of her third child. On our arrival, we found the hand on the perineum, the shoulder occupying the brim of the pelvis, the uterus contracted on the body of the child, but there was little or no uterine action; she was very much flushed, with a quick pulse, undoubtedly caused by stimulants administered to her by the nurse before we had arrived. She also having, as she confessed afterwards, mistaken the hand for a foot, drew it down, and thus complicated matters. Version was then performed without much difficulty, but the child was stillborn, and, from all appearances, had been dead for some hours. At my suggestion Mrs. G. was immediately put on small doses of calomel, with opium and bismuth, to be taken every third hour. On the second day the pulse was 130, and wiry, with suppressed lochia, and much tenderness over the uterus and abdomen; she was then given two grains of calomel, quarter of a grain of opium, and two grains of subnitrate of bismuth, every second hour; six leeches were at once applied, and repeated in the evening; on each occasion being followed by bran poultices, renewed as they became cold. On the morning of the fourth day all treatment was stopped, as all evidences of disease had been removed; the lochia had reappeared naturally, and the milk was fully secreted. She had not any attack of diarrhea.

INNUPTA—PREMATURE LABOUR—EPIDEMIC.

36. I was summoned, by telegraph, to visit Miss L., at about seven miles from this city, who had given birth to a stillborn female, at the sixth month of utero gestation, child and secundines having been expelled by one pain just as I had entered the house. She then informed me that she had been seduced under promise of marriage; but that she had not the most remote idea of her condition, till after my arrival, she most solemnly declared. Her increased size had not excited any suspicion amongst her friends, doubtless, the present hoop fashion so well con-

cealing it. In consequence of the nature of her case, and of the then great prevalence of puerperal fever, I lost not an hour in adopting preventive measures; and, in accordance thereto, ordered for her pills containing calomel and blue pill in small doses, with opium and bismuth at intervals of every four hours. On the following morning the pulse, which had been quiet, had risen rapidly and was wiry, the lochia were suppressed, and there was much pain and tenderness in the womb. The pills were then ordered at shorter intervals, the quantity of mercury having been increased, and eight leeches, followed by relays of linseed-meal poultices, were applied. On the next day the inflammation was much less, but the pills were still repeated, and the poultices employed as before. On the fourth day, as the lochia had reappeared, the mouth was sore from the mineral, and all unpleasant and dangerous symptoms had been removed, all antiphlogistic treatment was given up. On the fifth day the breasts were much distended with milk, which gave her much annoyance for a couple of days. Strange to say, the vulva had been very much inflamed, with several sloughy spots, which gave way to poultices well moistened with a solution of chloride of lime, and injections of warm milk and water first, and, after, of the solution now named, into the vagina; infusion of bark with chlorate of potash being taken in mixture. She had not any diarrhea; but eventually recovered completely, and went to reside in the country.

UTERINE DISEASE—HEMORRHAGE.

37. I was hurriedly summoned to visit Mrs. F., at about three miles from Dublin, who, shortly after my arrival, aborted at the fourth month of pregnancy; fetus and secundines having been expelled together; immediately after which very violent hemorrhage set in, but was soon controlled by cold dashings, and large doses of tincture of opium. From the history of this lady's case, the occurrence of the hemorrhage, and the, doubtless, presence of uterine disease, I, without any delay, put her on small and repeated doses of blue pill, with opium and bismuth. On the following morning I found the pulse quick, which I attributed to the loss of blood, and the over-action of some cathartic medicine. I directed the pills to be omitted until the purging had ceased, but then to be resumed, which was done towards evening; after which she had not any return of the bowel complaint. On the third day, as the pulse was still very quick but wiry, the lochia lessened, and some obscure tenderness was discoverable by digital pressure in the left inguinal region, the pills were repeated at shorter intervals; mercurial ointment was laid in the axillæ and inguinal regions; and also six leeches, followed by linseed-meal poultices, were applied. In a couple of days after, as all symptoms of inflammation had been removed, and the breasts were very much distended, from which she suffered very much, the pills, &c., were stopped. This and the former case illustrate a curious fact, nevertheless true, that often females suffer more from such states of the breasts during the earlier periods of pregnancy than at "terme." In the spring of 1848, this lady came, with her family, to reside in Dublin, from an inland county in Ireland. When in the city for a few days she became very ill, and was attended by a medical friend from the country, who happened then to be in Dublin on

business; but as he was called suddenly home, without being able to make any arrangement for her subsequent treatment, I was sent for on the following day, but was not informed that any other medical man had previously seen her, nor what was said to be her "ailment." Suffice it to say that I found her in a high state of fever. After quitting her room, her mother said to me, "How do you find Grace to-day?—has all infection gone?" "From what?" I replied. "From scarlatina; for Dr.—— said such was her disease." "Perhaps so; but she has not it now," was my reply. "Then what is it?" "I tis just now impossible to state positively her complaint, but I am of opinion that if she has never been unwell, she is now about to be so." I then ordered a mustard pediluvium, a diaphoretic mixture, and a bran poultice over the lower part of the abdomen—and left. On visiting her on the following morning, I found the pulse quiet; all fever gone; in fact she was well, but the catamenia were well established, having appeared the evening before. In the year 1854 Miss J. married, and went to reside in the north of Ireland. About four months after her marriage she miscarried, from fright, having been then three months pregnant. In 1856 she came to Dublin to consult me, and said that about two months before she had miscarried, after which she had been put into a couple of hot baths, notwithstanding she had perceptibly increased in size, which was supposed to be dropsy. However, on examination, I told her she was still pregnant, and carrying a living child, as evidenced by the stethoscope. She then returned home in great spirits, determining to come up to town for her accouchement, but was afterwards prevented by family matters from doing so. With this child she had a tedious labour, complicated by hemorrhage, and followed by puerperal inflammation. Afterwards she had three living children, and each of the labours was followed by hemorrhage. Subsequently she aborted twice—once at six weeks, and once at seven weeks—after which in August, 1862, she came to reside near Dublin, at which time the last abortion occurred. In conversation she mentioned, that after each of the last two miscarriages she had suffered extremely from milk in the breasts, causing high fever for some days. She has since been under my care for disease of the uterus and ovary, but she is now in excellent health; in fact, she says she has not enjoyed such health for years.

STIMULANTS—HEMORRHAGE.

38. Not very long since I was called to see Mrs. M., who was bleeding profusely. On my way I was informed that her labour was progressing very favourably, when the medical attendant induced her to take some almost fabulous amount of brandy, shortly after which, before delivery, very violent hemorrhage took place; and but for the active interference of an experienced nurse-tender, who insisted upon further advice, I firmly believe this patient should have lost her life. On my arrival in her bedroom I found her doctor armed with a glass of brandy and a dose of ergot, being about to administer both, neither of which, however, I permitted her to take, she having had too much of both. I then gave her a full dose of laudanum, applied some cold vinegar and water to the vulva, and bound her up with pads. She had not any return of the bleeding,

and fell asleep for a couple of hours. As soon as possible after awaking, she had small and repeated doses of blue pill, with opium and bismuth. She went on well until the evening of the second day, when some obscure tenderness was observed by digital pressure in the right iliac region. Small leechings, fomentations, and poultices were employed, and the pills, with the addition of calomel, were repeated at shorter intervals. By these means the disease was removed. She never had diarrhea, but the milk was fully secreted; after which she nursed her baby for the usual period.

INNUPTA—THREATENED CONVULSIONS—TEDIOUS LABOUR.

39. Miss ——, after a very tedious first labour, was delivered, by the lever, of a male child. About six weeks previous to the advent of labour she had all the premonitory symptoms of puerperal convulsions, which were removed, and thus the disease prevented by appropriate treatment. Immediately after the birth of her child, &c., she was ordered small and repeated doses of blue pill, with opium and bismuth. On the third day there was much tenderness over the uterus, to the left side; the lochia were scanty, of a bad colour, and offensive odour; and the pulse was very quick, but not wiry; and no secretion of milk, or tendency to it. Ten leeches were then applied, followed by linseed-meal poultices; and the pills, with the addition of small doses of calomel, were repeated, but at shorter intervals. On the following day the tenderness was very nearly removed; and she complained of a brassy taste in the mouth. The pills were given at longer intervals, and bran poultices were kept constantly applied during the day, and succeeded at night by a couple of folds of hot flannel. In the evening of the next day all medicine was stopped, as all the inflammatory symptoms had been removed, and the milk was coming to the breast—which was allowed at first fully to be secreted, and then to disappear, as she did not wish to nurse. She continued to progress very favourably for some days; when, one morning, I found her very much excited, in consequence of some family annoyance. She was sleepless, with a rapid and irritable pulse; however, by means of draughts, consisting of prussic acid, digitalis, and morphia, the pulse came down to its natural condition—her sleep returned to her—and she made a good recovery. She had not diarrhea at any period of her illness.

INNUPTA—EPIDEMIC.

40. About two years since, I was called, hurriedly, to see Miss ——. She was said to be suffering from inflammation in the bowels, and had been in pain during the greater part of the night. On visiting her I examined the abdomen, which, from its appearance, led me to examine further, when, to the surprise of her mother, I declared her to be far advanced in labour. However, although her labour was good, I determined to employ preventive treatment, in consequence of her friends having deserted her—leaving her only in the charge of a nurse—superadded to her own mental torture, and the fact of there then being a prevalence of puerperal fever. Accordingly, immediately after delivery, I ordered her small and repeated doses of blue pill, with opium and

bismuth. On the second day there was some obscure tenderness over the uterus, discoverable by digital pressure, with a quick, irritable pulse and arrest of the lochia. Eight leeches were at once applied, followed by linseed-meal poultices; and the pills were given at shorter intervals. In a couple of days after she was free from all pain and tenderness. The milk was fully secreted; but she did not nurse. She had not any diarrhea. This lady has since been married to the father of her first child; and since then has had another, followed by a good and quick recovery.

UTERINE DISEASE—HEMORRHAGE—EPIDEMIC.

41. Mrs. P. consulted me on account of sterility, she having been for some years married without ever proving *enceinte*. On examination, a very severe endo-cervicitis was discovered; however, after appropriate treatment the disease was removed. But before I gave permission, she and her husband—who had been separated—lived together again; when, almost immediately, she became pregnant. With this child (a female) she had a very tedious labour, requiring for its completion the aid of the lever. Very severe hemorrhage set in, consequent upon the nurse (behind my back) having forced away the placenta prematurely. For those reasons, and puerperal fever being then rife in Dublin, I ordered, at once, small and repeated doses of blue pill, with opium and bismuth. She progressed favourably until the night of the second day; when I was called out of my bed to see her, as she was in great pain. On my arrival I found her seated upon the night-chair, with a very excited appearance. After a good deal of persuasion I induced her to return to her bed; after which she became quiet, and stated that up to half an hour before I was sent for she felt herself quite well; when, as she required to have the bowels moved, the nurse permitted her to get out of bed for that purpose. She had not been long there when she had a rigor, followed immediately by pain in the womb; but nothing could induce her to move until I arrived. She complained much of tenderness on pressure over the uterus, and pain of a spasmodic nature. The lochia were suppressed; and the pulse was quick and wiry, but no tendency to lacteal secretion. Ten leeches were immediately applied, and followed by linseed-meal poultices. The pills, with the addition of calomel, were given at shorter intervals. In a few days, as the disease was gotten under—the mouth having been made sore—all treatment was given up. She had not diarrhea; but the milk was well secreted, and she nursed her baby—who, for the first ten days from its birth, had a very severe attack of erysipelas of the neck, terminating in an abscess, which was opened, and the child eventually did well.

STIMULANTS—HEMORRHAGE.

42. Mrs. C., when in labour of her first child, was kept in a small close room, with a large fire, and was well plied with wine and brandy by an ignorant nurse-tender. When she had been for some hours in labour I was sent for. On my arrival I found her flushed, with a quick pulse, and her labour so far advanced that there was not time to cool her or her room sufficiently. Very shortly after she brought forth a female child, which was rapidly followed by severe hemorrhage, which was

arrested by cold applications to the vulva, cold water enemata, and vaginal injections, together with large and repeated doses of tincture of opium. As she also had some bronchitis, she was given small doses of blue pill, hippo, and morphia, in pill, every third hour. On the following day the pulse was very quick and wiry, the lochia pale and scanty, and there was tenderness over the uterus. Eight leeches were then applied, and followed by linseed-meal poultices; mercurial ointment was rubbed into the axillæ and groins twice daily; and she had a pill consisting of calomel, James's Powder, bismuth, and opium, every third hour. On the third day she was somewhat improved, but remedies were ordered to be continued. Her friends, not knowing that no amendment can be depended on which does not last for 24 hours, stopped all treatment as soon as I had left the house; in consequence of which, on the next morning she was not so well, but had some deep-seated tenderness in the right ovarian region, only discoverable by steady digital pressure. The pills were again resumed, and a blister, well camphorated, was applied to the affected part. (I have never met in my practice a case of strangury where I employ camphor thus.) On the fifth day the pills were stopped, as diarrhea had set in, from an error in diet, which was gotten under by an astringent mixture and opiate enemata; the pulse was very rapid and weak. She was then given quarter of a grain of opium and half a grain of quinine every second hour, which, on the following day, was changed for one grain of quinine and one-sixth of a grain of opium, every second hour, as the bowels were inclined to be confined; she also had brandy in large quantity, night and day; and, as she was sleepless, she had one anodyne at night and another coming on morning, till her sleep was restored to her; her bowels were kept open by mild and antiflatulent enemata. This lady eventually recovered, but was kept in bed for nearly two months. For a long period there was every reason to fear the formation of a pelvic abscess, a tumour having been easily felt in the right inguinal region, but which finally, but gradually, gave way to absorbent liniments and blisters. I think we may safely assert that Mrs. C.'s life was saved by the early administration of the mercury, and that the too early stopping of it by her friends was the cause of her following serious illness, as, when the error was discovered, it was not deemed prudent to push it to any extent, when the tonic and sedative treatment, &c., so happily came in. I am aware of a somewhat similar case, in which a lady was let out too soon to drive, in consequence of which a pelvic abscess formed, and opened by the rectum; but she, though young, has ever since—now some years—been sterile.

IMPROPER DIET—VISITORS.

43. Mrs. L., after a natural labour of ten hours' duration, was delivered of her first child, a female. Everything progressed favourably up to the third day, when the milk was well secreted, the breasts having been much distended; but in the afternoon the nurse, contrary to my expressed directions, admitted visitors to her room, and induced her to partake of some wine and rich cake, which had been produced for them. On the following morning I was hurriedly sent for, when I found the pulse very quick and wiry, the tongue covered with a white fur, the abdomen

tympanitic, together with much pain and tenderness in the right iliac region; the lochia were light-coloured and scanty, and the breasts had become quite flaccid from recession of the milk. Eight leeches were at once applied, followed by relays of linseed-meal poultices, and small and repeated doses of calomel, with opium, were administered. In a couple of days all treatment was stopped, as the inflammation had been completely removed; the mouth was slightly affected by the mercury, but the milk did not return. She had not any diarrhea. The baby for some days had her buttocks and private parts thickly covered with a very suspicious-looking rash, caused by the nurse using the napkins a second time—not washing, but merely drying them; which condition I have, on more than one occasion, seen mistaken for syphilis. This lady has since had nine children, the last two of which she nursed. On all occasions she had a quick recovery, having learned, by sad experience, to mind the advice of her physician, and not that of her nurse. She now enjoys excellent health, and has not given up child-bearing.

STIMULANTS.

44. Mrs. R. had a very easy labour with her first child, a female. She progressed favourably until the evening of the second day, when she was suffering very acutely from spasmodic pain, and much tenderness over the uterus, caused by some brandy given to her by her nurse, and the lochia were suppressed. She was then bled to syncope, and ordered blue pill, with calomel and opium, every third hour, and the entire abdomen was covered with a bran poultice, renewed every second or third hour, according as each became cool. On the third day she was somewhat relieved, but no change was made in the treatment. Towards evening, on visiting her, I found that, having been persuaded by the said ignorant nurse to stop all remedies, she was not so well as in the morning. The above-stated treatment was resumed, but in the evening of the following day much tenderness existed in the left inguinal region, which was removed by leeching and blisters, dressed with mercurial ointment. The mouth was sore from the mineral, the milk was not re-secreted, and a troublesome diarrhea set in, but not before she was out of danger from the inflammation.

IMPROPER FOOD.

45. Mrs. B., the wife of a medical man, was delivered of her fourth child, a female, after an easy labour, and went on very well until the evening of the second day, when I was summoned in haste to see her. I found her very feverish, with a rapid, full, and bounding pulse, the lochia suppressed, no tendency to the secretion of milk, but the legs and knees drawn up, and crying out with exquisite pain in the womb, which was so tender that the slightest possible pressure was insupportable. On inquiry, I discovered that a couple of hours previously she had partaken of some corned beef and cabbage, for which, for some days past, she had been longing. I at once placed her upright in bed, and bled her to syncope, which gave her instant relief. She was given calomel and opium every third hour, and mercurial ointment was rubbed, twice a day,

into the axillæ and groins. As, in two days afterwards, all the inflammation had been removed, the lochia had returned, the milk was well secreted, and the mouth was sore, all treatment was abandoned. Diarrhea set in, but not until she was out of danger from the inflammation.

EXCITEMENT FROM VISITORS.

46. Mrs. B. had an easy and natural labour with her fourth child, a female. She progressed favourably until the second day, when, on visiting her, I found the pulse wiry and much accelerated; the tongue foul, covered with a white fur; the lochia suppressed; no tendency to a secretion of milk, but some obscure tenderness in the left inguinal region, only discoverable by deep and steady pressure with the extreme points of the fingers, which diseased condition I have no doubt was produced by a visitor who unguardedly revealed to her some unpleasant family matters. Six leeches were at once applied, and followed by relays of hot linseed-meal poultices. Pills, containing calomel, opium, and James's powder, were given every third hour. On the following day, as the tenderness had not been completely removed, six more leeches were applied, and followed, as before, by the linseed-meal poultices, and the pills were repeated. In a couple of days, after all treatment was given up, as all unfavourable symptoms had been removed, the milk was abundantly secreted, and the lochia had returned. Diarrhea set in, but not before the disease had been gotten under, and the mouth made sore; it was, however, speedily checked, and she nursed her baby afterwards for the usual time.

STIMULANTS.

47. Mrs. H. had an easy and natural labour with her first child—a female. She progressed very favourably (the milk having been secreted at the ordinary time) till the fourth day, towards evening, when having been hurriedly summoned, I found her in a high state of fever; the pulse rapid, full, and wiry; the tongue foul and white; the lochia suppressed; the breasts distended with milk; the legs and knees drawn up; and the uterus so exquisitely tender that the slightest touch gave her agony, which was periodically and spasmodically accompanied by pain in the organ. She was immediately placed upright in bed, and bled to syncope, after which she got great relief. She was then given calomel and opium in pill every second hour, and hot bran poultices were kept constantly applied over the uterus and the entire abdomen. Under this treatment, together with mercurial inunctions to the axillæ and groins, the disease was removed in a few days—the system, as evidenced by a sore mouth, having been affected by the mineral. The milk returned, and she was enabled to nurse. Diarrhea set in, but not till she was safe, and it was removed easily. The hysteritis in this case was induced by a quantity of raw brandy given to her by a friend during the absence of the nurse-tender from her room, which I am informed occupied only quarter of an hour, and within half an hour after her return the pain commenced.

INNUPTA—STIMULANTS.

48. I was brought, by a medical friend, since deceased, to visit Miss

B., who had been delivered, on the previous morning, of a female, her first child, with which I was informed she had had an easy and natural labour. On entering her room I found her lying on her back, the countenance most anxious, the legs and knees drawn up, and screaming with pain in the abdomen. She could not bear the slightest touch, so exquisitely tender was she in the entire abdomen; the pulse wiry, and too rapid to be counted; the lochia was suppressed. She had had a rigor, and was vomiting. This evidently was a case of peritonitis, commencing in hysteritis, as she said the pain and soreness began in the womb; generally the case, and one, for many reasons besides its very early appearance, calling for active measures. She was accordingly bled largely to syncope; mercurial ointment was rubbed into the axillæ and groins twice a-day; the abdomen was completely covered with hot bran poultices, frequently changed as they cooled; and she had calomel and opium in pill every second hour. On the following morning she was somewhat relieved; but it was considered requisite to apply a dozen leeches to the abdomen, and eventually a blister, which was dressed with mercurial ointment. In about a week all traces of the disease had been removed; the lochia had returned; the mouth was very sore; but the milk was never secreted; nor had she any diarrhea. The cause of her illness, besides seduction, was the fact of her having drunk a quantity of wine and brandy the evening of her confinement, at the suggestion of her nurse, and who afterwards neglected to send for her physician until she had been ill for hours.

UTERINE DISEASE—PREMATURE LABOUR.

49. One evening I was carried away, hurriedly, by a medical friend to visit a lady who was about to be prematurely confined. She had been very well up to an hour previously, when, on dressing for a ball which was to be in the house where she was on a visit, she took suddenly ill. On my arrival I found her pacing up and down her room, and in great pain, as on examination I found the pains were irregular and inactive. I gave her an opiate, which gave her rest for some hours, after which powerful and regular pains set in, and she was quickly delivered of a stillborn female, which had evidently been dead for some days. I shall not easily forget the birth of this lady's child, which was accompanied by music and dancing underneath us, but which had anything but an unfavourable effect upon her or her labour. I learned from Mrs. E.'s medical adviser that she never had a living child, but had had three or four abortions and premature confinements; after which, on investigating her case, I gave it as my opinion that some uterine disease was the producing cause, to which he would not agree. On the second day she had a severe rigor, followed by great pain and tenderness over the uterus; the lochia were suppressed; the pulse quick and wiry; the tongue covered with a white fur; and there was not any tendency to the coming of the milk. She was at once bled largely to syncope; the abdomen was covered with hot bran poultices, frequently changed; mercurial ointment was rubbed twice daily into the axillæ and groins, and calomel, with opium, was given every second hour for two or three days following; leeches, in relays, with linseed-meal poultices, were employed. After some more

days the pain, and all symptoms, with the exception of the quick pulse, were removed, when diarrhea having set in, mercurial treatment was abandoned. She then had a rigor, was sleepless and feverish, and the lochia were scanty and fetid. There was not any discoverable pain, tenderness, nor tumour; and at the end of ten days a quantity of pus was passed by the bowels, evidently of a phlebitic nature, after which she rapidly recovered. In a couple of months after her confinement I examined the womb, which, as I had predicted, was much diseased. A very large ulcer of the cockscomb character covered the entire os, which bled on the least touch; the cervix was much enlarged from inflammatory and congestive engorgement; as was also the organ itself. She was then put on appropriate treatment, which terminated in a cure, immediately after which she and her husband went to reside at the Cape of Good Hope; and since then she has had three or four living children.

### ARTIFICIAL DRAWING OF THE BREASTS.

50. Mrs. K. had an easy and natural labour with her second child, a female. She progressed very favourably up to the evening of the fourth day, when I was hurriedly summoned to visit her. She then was very much flushed, with a rapid, full, and bounding pulse, the tongue coated with a thick white fur, and the lochia suppressed. She lay on her back with the legs and knees drawn up, and crying from extreme pain in the uterus, which came on spasmodically and periodically. She could not bear the least pressure over the womb, it was so exquisitely tender. I was very much surprised at her sufferings, as only a few hours previously I had left her with a quiet pulse, and the breasts distended with milk; but, as they were painful, I ordered the nurse to rub them with warm oil, and, at the same time strongly inhibited their being drawn by any other means than the baby's mouth. Having expressed to her my inability to account for the suddenness of her illness, she said, "Oh! the nurse drew my breasts with her mouth through a glass tube, when almost immediately the milk left me, and I felt the pain drawn down into the womb, which then became tender, and has continued so up to this." I at once bled her to syncope, having first placed her in the erect posture; and ordered her calomel and opium, in pill, every third hour; and had mercurial ointment rubbed, twice daily, into the axillæ and inguinal regions, together with the constant application of hot bran poultices over the womb. As puerperal fever was then rife in Dublin, the treatment was thus energetically employed. In a few days afterwards the inflammation had been removed, the lochia returned, but the milk was not re-secreted. She had not any diarrhea, nor tendency to it; but her mouth was very sore from the effects of the mercury on the system. One of the most eminent physicians in this city, at that time, saw this lady with me; who, on the occasion of his visit, in reply to her husband, who was regretting the state of her mouth, thus said:—"Sir, you ought to be very thankful that your wife is as she is. I have just now come from seeing a lady, in consultation, who before many hours shall be in eternity; and had the same measures, and with equal activity, been adopted in her case, as they have been in Mrs. K.'s, such an unfortunate result would not follow."

ADMISSION OF VISITORS.

51. Mrs. W., a young lady of a very excitable temperament, was, after an easy and natural labour of three hours, delivered of a female, her first child. She went on very favourably until the morning of the second day, when, contrary to my directions, visitors were admitted to her room. On seeing her, shortly afterwards, she was so very much excited that at first I thought she had taken some stiumulants; her pulse was so quick as not to be counted, and wiry; the lochia were very dark-coloured and fetid, and some obscure tenderness was discoverable, but only by deep steady pressure, with the points of the fingers, over the uterus. Six leeches were at once applied, and bleeding kept up by hot linseed-meal poultices, and powders containing calomel, opium, and bismuth, were given every third hour. On the third day the tenderness was less; she had been restless and delirious during the night, but had some quiet sleep coming on morning. The pulse and fever being as high as before, with a dirty, creamy, white tongue, six more leeches were applied, and followed as before by poultices, and the powders were repeated. On the fifth day, as all tenderness had disappeared, the lochia were natural, the mouth was slightly sore, and the milk was well secreted, all treatment was stopped. She had not any diarrhea, nor tendency to it, but for some days she suffered from milk fever, after which she rapidly recovered.

HYPERPURGATION.

52. I was called to Mrs. D., a lady residing in the suburbs, when in labour of her second child. I found her much excited and alarmed, as in her first confinement instruments had been employed; and her husband's first wife had died from hemorrhage in her first labour. She had been, some days previously suffering from false pains. I then assured her that she was not in any danger, and was progressing as favourably as I could wish; after which she became tranquil, and within the space of two hours gave birth to a living female child. She went on very well until the second day, when severe and troublesome diarrhea set in, caused by an overdose of a cathartic, given by the nurse without directions. In the course of that day some obscure tenderness was discoverable over the uterus; the lochia were pale and scanty; the pulse about 100. Small doses of calomel, with opium and bismuth, were given every third hour, and hot dry bran poultices were kept constantly applied over the entire abdomen. As all tenderness had disappeared on the fourth day, when the milk was secreted, the mercury, &c., was stopped, but there was not any return of the diarrhea; yet the pulse became very quick, and continued so for some days, but was brought down by means of small doses of digitalis and Dover's Powder; after which she had infusion of cinchona, with laurel water, and then rapidly recovered. She nursed her baby for the ordinary period.

I think that, from what has now been stated, we may fairly deduce the following:—

1. That the rate of mortality in childbed is by far too high.

2. That some form of puerperal inflammation is, in the great majority of instances, the cause of death.

3. That puerperal inflammation is very frequently fabricated.

4. That puerperal inflammation is often overlooked, either from ignorance or want of careful examination.

5. That chloroform in many ways predisposes to a fatal issue.

6. That the advent of puerperal inflammation can, in very many instances, be prevented; as also that the disease can be cured more frequently than it is.

7. That, from the insidious character of puerperal inflammation, its rapid and fatal course, an early and active treatment is required for its removal.

8. That, apart from other reasons, it is of the utmost importance to remove *post partum* inflammation quickly and completely; for upon imperfect cures of that malady it is far from unusual for phlegmasia alba dolens and other secondary forms of inflammation to follow during the puerperal period, as also, from such a contingency, chronic diseases of the uterus or pelvic viscera exhibit themselves at a still later period.

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Art. II.—*On Poisoning with the Berries of Atropa Belladonna; with Observations on the Mode of Action of Belladonna.*[a] By Thomas Hayden, F.R.C.S.I., L.K. and Q.C.P.I.; Physician to the Mater Misericordiæ Hospital.

On Saturday, October 11, 1862, at 6 o'clock, p.m., Master Simon K., a fine healthy-looking boy, aged seven years, was brought into my study, by his two brothers, who reported that he had eaten a quantity of berries, about 10 o'clock that day, in a suburban demesne where he had been to take exercise in company with another boy; that he had returned at the usual dinner hour (3 o'clock), but had taken no dinner; that, whilst at tea, at 5.30, p.m., he appeared giddy, talked inarticulately, laughed causelessly, and was a subject of amusement to his brothers.

At 6, p.m., when the boy was brought to me, his face was somewhat flushed; pupils widely dilated; pulse, 138 and full; deglutition was performed with difficulty, and articulation unintelligible;

[a] Read before the Association of the College of Physicians, 20th May, 1863.

he laughed unmeaningly, was much excited, and ran about the room with a staggering gait, falling against the furniture as if intoxicated.

I declared the boy under the influence of poison, from eating the berries of the deadly nightshade, and ordered a mustard emetic, and 2½ grains of comp. powder of ipecacuanha every second hour after the emetic had acted. A large quantity of the fruit pulp was ejected from the stomach under the operation of the emetic; the face now became deeply flushed, and coma and spasmodic twitching of the arms and legs quickly ensued; the tongue was dry and rough; the palate and pharynx congested; the pupils in a state of extreme dilatation; the pulse 140, full and bounding, and the feet cold. I directed that the head should be elevated, and a cold lotion kept constantly applied to it; the feet to be kept warm; the opiate continued, and strong coffee given as often as the patient could be induced to take it; the face and chest to be occasionally dashed with cold water from a hearth-brush, and an aperient, consisting of five grains of scammony and two grains of calomel, to be given immediately.

Three of the berries, which the child had thrown into the yard, were now brought to me, and fully confirmed the view taken of the case as being one of poisoning from the fruit of the atropa belladonna.

10, p.m.—Has had another attack of vomiting, and thrown up a large quantity of the mashed berries. Still deeply comatose. Ammonia to be applied to the nostrils, and coffee and cold aspersion continued.

Sunday, October 12, 8.45, a.m.—Had severe spasm of limbs in the course of the night; is semi-conscious, but still confused; speaks inarticulately; pulse, 120; face less flushed; tongue dry; pupils fully dilated. The powder not having acted on the bowels, a draught of castor oil was ordered, and iced water to allay thirst, which was urgent.

4.30, p.m.—Is now quite conscious, but somewhat confused, imagining his brothers and playmates in bed with him; pupils not quite so widely dilated; to have beef tea and another draught of castor oil.

Monday, October 13.—Was most turbulent last night, up to 4 o'clock—shouting, singing, laughing, and crying alternately, and trying to get out of bed. Face pallid; tongue moist; pulse only 72, and feeble; pupils dilated. The oil acted freely in the course

of the night, and brought away a large quantity of the black husks of the berries.

Tuesday, October 14.—Has slept well, and taken a good breakfast; is now out of bed; pulse, 82; pupils still slightly dilated, but in all other respects is in perfect health.

It will be observed that the early and the latter stages of this case were characterized by symptoms of nervous and vascular excitement closely simulating those of alcoholic intoxication. The consecutive depression, however, of alcoholic poisoning was absent, and represented here by a second stage of excitement. The intermediate stage was one of profound coma, in no respect distinguishable from that due to the excessive use of alcohol, save in the extreme dilatation of the pupil, and the congested and parched state of the mouth and pharynx.

It has been shown by the experiments, and examination of the bodies of persons who had died from the effects of belladonna, instituted by Orfila, that the cerebro-spinal centre and its investing membranes are in a state of extreme vascular congestion under the operation of this poison. This fact alone would be sufficient to account for the dilatation of the pupil, without assuming any specific action of belladonna as a mydriastic. We know, however, that belladonna may act as an excito-motor stimulant when applied to the eye, without at all giving rise to congestion of the ocular vessels. It would appear that, whether applied to the periorbital and palpebral integument or to the conjunctiva, it acts invariably upon the sympathetic supplied to the radiating muscular fibres of the iris, through the branches of the fifth pair of nerves distributed to these surfaces as its incident medium. Mr. Wharton Jones has arrived at the conviction, from experiments on the web of the frog's foot, that belladonna acts as a direct stimulant of the vaso-motor filaments of the sympathetic, thereby inducing contraction of blood-vessels, and by implication in a similar manner on the *dilator pupillæ* through the fibres of the sympathetic supplied to it.

I have carefully repeated these experiments of Mr. Jones', with the precaution, however, which he neglected, of first completely dividing the integument of the limb, higher up, by a circular incision, so as to cut off the sentient nerve-supply of the foot. The result has been totally different; for whilst, in Mr. Jones' experiments, and in those which I have performed under similar conditions, the application of a drop of the solution of extract of belladonna (20 grains to the scruple) caused immediate contraction of the

blood-vessels of the frog's web, in those which I have instituted, after taking the precaution already mentioned of dividing the integument of the leg, the result was simply negative—*i.e.*, there was no contraction of the blood-vessels. Thus, in the web experimented upon after the method of Mr. Jones, there was a contraction of the vessel measured, on the application of belladonna, from a diameter of $\frac{1}{1200}$ to $\frac{1}{1600}$ part of an inch, as determined with my micrometer;[a] whilst the web of the opposite foot, treated in a similar manner after complete division of the integument of the leg, exhibited no contraction whatever.

It is clear, therefore, that belladonna acts, not as a direct, but as a reflex stimulant of non-striated muscle; and that, in the case of the iris, the media of conduction centripetally are the sentient filaments of the fifth pair distributed to the conjunctiva and surrounding integument.

Dr. Charles Lee proposes the administration of opium in poisoning by belladonna, and holds that these agents may be regarded as reciprocal antidotes—an opinion probably deduced from the opposite states of the pupil under their operation. We are here presented with a forcible illustration of the error of treating symptoms without reference to causes. Had Dr. Lee adverted to the fact that belladonna dilates the pupil by inducing a state of active contraction of its dilator muscle through the sympathetic, and that opium causes its contraction by stimulating its constrictor muscle through the third or *motor oculi* nerve, he would not have concluded that a myostic must of necessity be a corrective of a mydriastic, and proposed opium as an antidote for belladonna.

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Art. III.—*Further Observations on Death by Hanging; with an Account of the Execution of a Murderer, and the subsequent Examination of the Body.* By Charles Croker King, M.D., M.R.I.A., F.R.C.S.I.; Professor of Anatomy and Physiology, and Dean of the Medical Faculty, Queen's College, Galway.

On Tuesday, the 11th of May, 1858, Patrick Lydon underwent the extreme penalty of the law, in front of the County Galway

[a] See Dublin Quarterly Journal of Medicine, Feb., 1855.

Gaol. He was executed for the murder of his wife. The particulars of his case are as follows:—

Previous to the Spring Assizes of 1856, Lydon, who occupied the position of a comfortable farmer, was committed to bridewell, charged with having violated the person of his servant, Margaret Conneely. Lydon constantly affirmed that he was innocent of the crime of which he was accused; he became nervous, and apprehensive as to the result of his trial, and in an evil hour he consented to become the husband of Margaret Conneely, and the fatal marriage, which has ended in the death of both parties, was solemnized.

On Lydon's discharge from custody he refused to live with his wife, and they separated. Margaret Conneely demanded that she should be taken home, and treated in every respect as his lawful wife; but Lydon's family regarded her with contempt, and constantly impressed upon Lydon the social position he would sacrifice if he attempted to introduce a person of her low birth and moral character within their family circle. On one side were the constant importunities of a wife he hated, demanding rights which the law, if appealed to, would accord her; on the other side, family influences, which (if he complied with his wife's demand) would be equivalent to a sentence on him of social banishment—for the relatives declared they would never consent to associate with this woman. Swayed by these two impulses, the unfortunate fellow was driven almost mad.

The importunities of his wife were unceasing; and at last, on the 17th of August, 1856, Lydon yielded, and consented to take her to his own home. His residence was some miles distant from that of his wife's; he called for her at night, and they left the house together. She was not heard of for some time, and it was supposed by her friends that she was living with her husband. Eventually, her body was discovered, buried in the sand, in a lonely part of the county, on the borders of Lough Mask. Suspicion naturally fell upon Lydon; he was the last person seen in her company, and they were then going in the direction of the place where her body was found. Lydon, on being questioned, did not give a satisfactory account of their last interview; he stated that, having quarrelled on the way, they parted company. He was arrested and thrown into gaol.

The evidence which could be obtained against Lydon was altogether of a circumstantial nature; no eye had witnessed the foul deed. The Crown prosecutors were of opinion that there was not

sufficient evidence to sustain a conviction, although they had no doubt of his guilt. Consequently, assizes after assizes were held, the trial being each time postponed in the expectation of some additional evidence being obtained; and, at last, having been nearly two years in gaol, he was put on his trial. After a patient consideration of the case, and a prolonged trial, Lydon was found guilty, and the 11th of May, 1858, named for his execution.

There was nothing repulsive in the expression of Lydon's countenance. His head did not exhibit any great mental development; nor did it, on the contrary, show any remarkable deficiency; his forehead was low, but this was not the result of deficient cranial development, but was caused by his hair growing down low, and encroaching on his forehead. A careful examination of the skull did not give any support whatever to the system of phrenology.

During this man's confinement he conducted himself with the greatest propriety; was docile, gentle, and obedient to orders. After his conviction he appeared to be most penitent; and on the drop acknowledged that he was guilty of the murder, but protested, in the most solemn manner that he was perfectly innocent of the crime with which he was originally charged. Having made this dying declaration, he submitted to his fate with a firmness worthy of a better cause.

Lydon was a small man, only 5 feet 5 inches in height; skin and complexion rather delicate; muscular system moderately developed. The diameter of the rope was 10 lines; his weight 9½ stone; the space through which he fell 11 feet. The loop of the rope ran in an oblique direction from the side of the neck upwards towards the left ear, immediately below which the knot was placed. The fall was considerable; but, with the exception of the effect of the recoil of the rope, the body was motionless. Death seemed to be instantaneous; not the slightest motion of the body, or even quiver of the limbs, could be observed. Life having been pronounced to be extinct, the body was not left suspended for more than a few minutes.

The following examination was made immediately afterwards:— Face (with the exception of a very slight, scarcely perceptible, light violet hue) not congested; expression calm; eyes nearly closed, conjunctiva not suffused; mouth closed; tongue neither protruded nor congested; fingers gently flexed; general surface of body pale; no effusion of blood from nose, mouth, or ears; penis flaccid, no discharge of semen or urine; abrasion of the epidermis corresponding to the right half of the rope's track.

The further examination of the neck was conducted in the following manner:—Two incisions, parallel to each other, were made, one above, the other below, the track of the rope, and the included flap of skin was dissected up. The areolar tissue did not present a silvery appearance; but several ecchymosed spots were observed in the substance of the skin, in the subcutaneous areolar tissue, and in the substance of the superficial muscles. The left wing of the thyroid cartilage was driven in and fractured in a vertical direction. The thyro-hyoid muscle and membrane were ruptured, and the stalk of the epiglottis and the aryteno-epiglottidean folds of membrane completely torn across. The mucous membrane of the larynx was not congested. That portion of the anterior common ligament of the spine which passes from the body of the second to that of the third cervical vertebra, was ruptured, so that the left half of the bodies of the above-mentioned vertebræ were separated from each other by an interval of one-eighth of an inch; but there was no displacement, with the exception of in a slightly angular direction towards the right side, which the above separation permitted. Both membrana tympani were examined; they had not sustained any injury.

On the completion of the above examination the body was buried, so that an opportunity was not afforded of examining the brain or the contents of the thorax. The result of the examination of the body in the present case is interesting when contrasted with the one published by me in the thirty-fifth number of this Journal.

Both criminals were executed with the same rope, and there was not much difference in their weights; but the length of fall was decidedly greater in the present than in the former instance. Still, making every allowance for these circumstances, the results were remarkably different.[a]

In the case of the criminal Hurley, although the body fell with a tremendous jerk, there was a singular absence of those appearances generally regarded as necessary accompaniments of hanging during life, or even of those slight evidences enumerated by many authors as constant attendants upon death, the result of simple suspension. For example, the site of the rope was scarcely perceptible; there was not the slightest extravasation of blood either into or beneath the skin, or even the silvery appearance of the areolar tissue, or injury of any kind done to the muscles, blood vessels, nerves,

[a] The momentum acquired by a man of 9½ stone falling through 11 feet is to the momentum acquired by a man of 10½ stone falling through 7½ feet, nearly as 11 to 10.

bones, or ligaments. Whereas in the present case there was abrasion of the epidermis, rupture of muscles and ligaments, and fracture of the thyroid cartilage, and great violence done to the epiglottis and aryteno-epiglottidean folds.

In the second volume of *A Hand-Book of Forensic Medicine*, by Casper, translated by Dr. Balfour, for the New Sydenham Society, at page 161, we find the following observations:—"How often do we read, in purely theoretical authors, of the violet, bluish-red, swollen countenance of those strangled! Nothing, however, is so erroneous as to suppose that every one hanged has such an appearance. Haller, long ago, published descriptions of persons hanged, who had a pale and sunken countenance; and numerous later observations of a similar character have been made. My own experience, however, has taught me that by far the greatest number of persons strangled have neither a turgid nor a livid countenance, but one simply like that of *any other corpse*."

In corroboration of the above observations, I would recall attention to the appearances presented in the two cases detailed by me. In the former case, when the body was cut down, after having been suspended for 45 minutes, the face was pale. In the latter case the expression was calm, and the face not congested, with the exception of a very slight, scarcely perceptible, light violet hue. It is worthy of remark that in the case of the man Hurley, although immediately after the execution, the face was pale, and there was not any discolouration of the integuments of the neck, breast, or shoulders; yet, on the following day, 18 hours after death, the body, in the interval, having *lain on its back*, the face was livid, the lips and ears purple, and the integuments of the shoulders and of the upper and *front* of the chest of a bluish colour. These appearances are quite in corroboration of the case quoted by Esquirol.

Dr. Wilde, in his able *Treatise on Aural Surgery*, p. 326, mentions the case of a female who had strangled herself by twisting a ribbon round her neck, and in whom, on *post mortem* examination, Professor Geoghegan had discovered a rupture of the membrane of the tympanum. He concludes his comments on the case by observing that the only two cases on record, in which there had been a careful examination of the parts, is one mentioned by Littré, and the foregoing. It was, consequently, determined in this instance that the condition of both membranes should be examined. On a most careful examination, it was found that neither of the membranes had sustained the slightest injury.

In the case of Lydon there was not any erection of the penis, or any discharge from the urethra. Casper considers the source of the urethral discharge as the prostate gland; but in the case of Hurley the penis was semi-erect, and the urethral fluid, when submitted to microscopic examination, was found to contain numerous spermatozoa.

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Art. IV.—*Remarks on the Hemostatic Treatment of Cholera, Hemorrhage, Exhaustion, &c.* By Thomas A. Wise, M.D., F.R.C.P. & F.R.S. Ed.

When the Spanish pilot smiled on the late Dr. Kelly, shivering under the influence of a cold fit of ague, and pointed out how easily it might be removed by the application of a garter to stop the blood of one or two of his limbs, he suggested a plan of treatment which has long appeared to me worthy of more attention than it has received. When in India I had, on one occasion, a regiment prostrated with fever unexpectedly placed under my charge; and, as I had but a small supply of quinine, and could not obtain more, I employed tourniquets to intercept the blood in the extremities, and with a degree of success that induced me to publish the result in *M'Clelland's Journal of Natural History, Calcutta.* I have not the journal by me; but the result was so favourable that I frequently employed it in the cure of intermittent fevers; and I afterwards extended the application of this powerful remedy to other diseases, and propose again to bring the subject under the notice of the profession.

The great discovery of Harvey determined the principle that we had, by means of the tourniquet, the complete command of the arterial circulation of a limb, and could, by means of a tight bandage, retard the return of a considerable quantity of blood from the extremity. Modern physiologists inform us that the quantity of blood in the whole body is about 28 lbs.; and that in ordinary health there is about two pounds weight in each of the four extremities. The numbers will, perhaps, be allowed to be nearly correct, although the absolute quantity will vary in different individuals, and in different parts and conditions of the body. For instance, a person during active exercise will have the distribution of the blood all over the body considerably different from an

individual in repose; and this difference will often be still greater in disease. The attack of an intermittent disease is accompanied with a congestion of blood in certain organs; and, as we have the complete control of at least a pound of blood in each limb—may we not act on this with great advantage in the cure of disease?

The circulation may be controlled in two ways—1st, by retarding the blood in veins, and, 2nd, by stopping the circulation in arteries.

*To retard blood in the veins of a limb as a therapeutical agent.*—In patients with the premonitory symptoms of apoplexy, in severe cases of dyspnea, in some organic diseases, and even in inflammation of particular organs, the temporary withdrawal of a certain quantity of blood from the general system, and its retention in the extremities may sometimes be used with great advantage. It is easily accomplished, by the application of a field tourniquet upon one or more extremities.

*Stopping the arterial circulation in a limb.*—It must not be supposed that a clamp or horse-shoe tourniquet, when compressing the chief artery of a limb, acts merely on the part, by stopping the circulation—it powerfully affects the whole system. If applied to the femoral artery, probably a pound, of the two pounds of blood intended for the limb, is prevented passing into it, and makes its way back to the heart, causing a more rapid and forcible circulation over the diminished circle.

Secondly. As many diseases are local, and are connected more or less with morbid congestions of blood, which generally produce the pain and the derangement of the functions of the affected organs, by so closing a portion of the circle you thus enlarge the volume of blood, and increase the force of the heart, which has a most powerful influence in removing local congestions in the internal organs.

It is not, however, in every case that the treatment can be employed with the same good effect. It is in the large class of functional diseases that the partial stoppage of the circulation is of so much permanent use; and even in some organic diseases it may be employed with advantage by withdrawing so much blood from the circulating system of the part. By thus placing a ligature so as to press upon the chief artery of one or two extremities, the general mass of blood circulates through a smaller circle, and in some diseases produces a powerful tonic or stimulating effect upon the general system.

In those sudden and appalling cases of uterine hemorrhage the effect

is very marked; and the fatal result is often arrested by this prompt and energetic interference. In such cases the patient is often left in a collapsed pulseless state, without the quantity of blood necessary for carrying on the vital functions, for which the strongest stimulants are used in vain; and in a large proportion of these cases, after a faint return of animation, the patient sinks into a state of collapse, and dies from exhaustion, without any further loss of blood. In such a case, the simple means of contracting the extent of the circulation, by closing one or more of the arterial trunks, will be of great advantage: Mr. Wardrop states that the effort of raising a patient, in such a case, and accidentally closing the humeral arteries, was found sufficient for nature to rally. This will be more effectually done by raising the limb, pressing the venous blood onwards, and applying a clamp-tourniquet to the humeral and femoral arteries, by which upwards of a pound of blood, sent to each limb, is stopped, and finds its way back to the heart. This diminished vascular circle, and increase of blood, stimulates the heart's action, and the greater volume of blood has a powerful influence in strengthening the weakened system.

In the collapsed stage of cholera, when, in many cases, the physician first sees his patient, the system is so much prostrated that the most powerful medicines have no effect, the application of the tourniquet affords the only chance of cure. This most powerful remedy immediately removes the painful cramps, and produces the same equalizing effect as blood-letting, without the debility caused by this evacuation. It likewise increases the volume of blood, which stimulates the heart to increased action, removes morbid congestions, and, changing the morbid distribution of blood from the secreting surface of the alimentary canal, sets up a new and salutary action in their place. It thus affords the most ready and most powerful means of rousing the system. By this means the purging and vomiting are stopped, the pulse becomes stronger, the heat and strength of the system are quickly restored, and time is allowed for medicines to act.

The tourniquet may be applied to two or to the four extremities, according to the effect intended to be produced. When the individual is weak, and the state of collapse great, more care is required in emptying, by friction, the blood in the veins of the extremity to be bandaged; and the effect will be more marked if the tourniquet be applied to four extremities. It may be kept on for hours, or even for a day or two. In one case I kept the tourniquets applied for

three days—as the exhaustion was very great—with the best effects; only relaxing one or more, as it appeared necessary. When reaction has taken place, by relaxing cautiously one or more of the tourniquets, so as to allow the blood to flow to the extremities, it afforded a ready means of relief. In a pretty extensive experience I have not seen any bad effects produced by the application of tourniquets. The effect, however, varies according to the stage and severity of the disease. When the patient is stronger, or when reaction has taken place, the pressure of the tourniquets is complained of—and much care is required to prevent the patient loosening them. If it be done too abruptly the blood spreads over the extremities, and the patient rapidly sinks, as occurred in the following cases:—

Case I.—A young lady joined her parents in India; and, on a damp evening, walked along the moist bank of the river, which had been covered with water during the rains. She wore a light dress, and thin shoes, which she did not change at dinner, and went early to bed. During the night symptoms of cholera appeared, and I was sent for. The frequent and peculiar discharges, the state of the pulse, and the cramps, proved the severity of the attack. I immediately acted in the usual energetic manner, but without much effect; and in the morning I requested the assistance of an old and able physician. On learning the history, and the result of the treatment that had been employed, and as she appeared sinking, he considered there was no hope. I proposed the application of tourniquets, which he warmly recommended. They were applied to an arm and a thigh; and the result was soon most marked and gratifying. The cramps ceased, the cold and clammy skin became warm, the pulse resumed its action, and the pale sunken face became animated with a flush. I then slowly relaxed one of the tourniquets; and, having other urgent calls, I left the patient under the charge of my friend, with strict injunctions not to touch the tourniquets until my return, and pointed out the danger of such a proceeding. He understood, and carefully observed, my instructions; but, as the young lady dozed, he left the room, and did not return for some time, when he found all the unfavourable symptoms returned; and then it was he learned the young lady herself had persuaded her sister to unscrew the tourniquets; the blood that was animating the body flowed again to the extremities—the heart, weakened by the loss, ceased to act with the same energy—and all the fatal symptoms returned, and she died that night.

In those cases, when the disease is severe, the tourniquets should be kept on until reaction begins, when one extremity is to be set free at a time, and again, if necessary, *tightened*, to prevent the relapse—which is always most dangerous, as witnessed in the following case:—

Case II.—Gunga Sing was brought, at noon, to the hospital, in the collapsed stage of cholera. There was great anxiety, no pulse at the wrist, and great thirst, with vomiting and purging. The tourniquets were applied, and continued all next day and night; only at times loosened, and they were removed for some hours the following morning. The body was then much warmer; but the eyes continued sunk and inanimate, and filled with mucus. The patient was anxious and restless, the pulse continued small and weak, and the temperature of the body was 100. He complained of the tourniquets; and at last removed them. 25th. Still anxious and restless, with 24 respirations in a minute. In other respects better. His appearance much improved; eyes more animated and clear; and he ate some arrow-root with appetite. He will not allow the tourniquets to be applied; they seem to irritate him. The circulation being then left free, the warmth of the body diminished, the pulse became imperceptible, and collapse and death followed. The usual remedies had no perceptible effect on this patient.

These cases illustrate the danger of leaving off the tourniquets, or slackening them too soon. It requires much care and attention to do this properly. The rule being to relieve any symptom of congestion by relaxing the ligature for a time, according to the state of the patient.

The following are cases in which tourniquets were used, and in which medicines, in all probability, would have been given in vain:—

Case III.—Shakh Hoosen admitted into hospital, under the care of Dr. Eastall, with the usual symptoms of cholera. The pulse was imperceptible at the wrist—body covered with cold perspiration—no secretion of urine—and the evacuations from the bowels were passed involuntarily. Four grains of calomel, and four of quinine, with a grain of opium, were given, and washed down with brandy and spiced warm water. As the unfavourable symptoms continued,

four tourniquets were applied to the four arterial trunks of the extremities, and at the same time a draught of the *drogue amere*, laudanum, and peppermint water was administered. In the evening he was found without pain, the action of the heart stronger, and the body warmer. He complained of the tourniquets, and loosened them himself during the night. In the morning they were again tightened. All the bad symptoms had disappeared, he was warm, his voice was stronger, and he felt better. The improvement continued during the day, and two of the tourniquets were removed at night. He continued to improve, and he soon left hospital quite well.

The following cases were reported by one of my intelligent assistants:—

Case IV.—Hurrooman, aged 25, was brought to the city hospital, in consequence of several liquid evacuations, which had reduced him very much. He had no pulse at the wrist, and complained of severe cramps in the muscles of the legs. A cholera pill, composed of black pepper, assafetida, and opium, was given, suspended in mucilage, with salt; and an infusion of ginger for drink; with hot bricks to his feet, and turpentine and oil rubbed over his body. The application of the tourniquets immediately stopped the cramps, and soon improved the pulse. He continued restless, with occasional severe pain in the abdomen, which went off. The heat of the body was improved, the cramps did not return, and he left the hospital quite well three days after admission.

Case V.—Noor Mahammud was brought to the hospital labouring under a severe attack of cholera. He had incessant purging and vomiting, with no pulse at the wrist, and the skin cold. The tourniquets were immediately applied to a leg and an arm, a sinapism to the abdomen, and the cholera medicines administered. The purging and vomiting ceased, the heat of the body improved, and he slept comfortably. Next day he felt well, and continued to get stronger: on the fourth day he was discharged cured.

Case VI.—Ducas Sing, aged 30, was admitted, yesterday afternoon, into the city hospital, in the collapsed stage of cholera. He had vomited, and his evacuations were liquid; his body was cold;

pulse small, weak, and rapid—probably from the exertion of being brought to the hospital—for it soon became imperceptible, and his eyes were sunken and lifeless. Narcotics, and the usual stimulants were employed without effect, and he continued to complain of thirst. Two tourniquets were applied—one to an arm and the other to the opposite leg—which had soon the effect of improving the pulse, and the warmth of the body. He loosened the tourniquets several times, as they felt uneasy; and he fancied his uneasiness might proceed from the tight bandage, and removed them altogether during the night. In the morning he felt quite cold, eyes sunken, and pulse imperceptible at the wrist. The temperature of the air was then 86°, and that of the axilla 96°, when the tourniquets were applied; and in a short time the pulse became full, soft, and 112 in a minute, and the temperature of the surface somewhat increased—being in the axilla 97°. He feels better, and is inclined to eat.

30th.—After the exhibition of a pill containing 10 grains of calomel and one of opium, he had three pale motions, secretion of urine free, and of a good colour. Sleeps well, pulse full, skin still cold. Next day, in consequence of a determination to the head, three leeches were applied to the temples with advantage, and the patient felt well, and wished to go home, but was induced to remain two days longer in hospital.

Case VII.—Sadee Misterie, aged 30, was admitted into the hospital on the 23rd of October, in the collapsed stage of cholera. Has passed rice-water stools, and has had frequent vomiting; pulse imperceptible. Tourniquets were applied to the two arms and legs, and only loosened occasionally, as required. The pulse soon improved, and next day was 84, small and weak; trunk warm, and temperature 98°. 25th. Body cool; pulse still small, weak, and 88°; still purged. The tourniquets had been removed for two hours before I visited the hospital. On their being again applied the pulse soon became more full and regular, and the warmth of the body increased to 99°. The usual cholera medicines were exhibited.

26th. Improved in every respect. The tourniquets to be continued. 27th. Nearly well; sleeps well; and the temperature of the body is natural; secretes urine; dejections of a good colour. 30th. The tourniquets to be left off by degrees. He left the hospital quite well on the 3rd of November.

Case VIII.—A gentleman of the civil service, who had been

many years in India, had latterly become indolent, had left off early rising, and had got very stout. He had been "out of sorts" for a week, but not sufficiently so to require assistance. On Sunday he partook of some ham, and ate two hard-boiled eggs. He felt the food had not agreed with him; but went to church in the evening; and at night slept under a punkah, with the bed-room window open, an unusual occurrence. There was a strong, cold, and easterly wind blowing over a garden which had been raised from the river, but was not entirely filled up; and, as the water of the river retired, it left this garden a marsh covered with rank vegetation—a very hot-bed of malaria, particularly when the cold, damp, easterly wind passed over it, and upon a person asleep. At 3 a.m. he awoke, and had a large rice-water stool, from which he felt faint. He had several more of the same nature in the course of the morning and forenoon, without any bile or feculent smell. He became sick, and the cramps were frequent and very severe, in both legs during the day. Frictions of hot turpentine and oil had little effect, but the cramps were immediately removed by the application of the tourniquets. They were slackened; and when the cramps returned, a turn or two removed them. "A little more," he said, "that will do; the pain is gone." This was not repeated once, but frequently; for the pressure was repeated as often as required, and always dissipated the agonizing cramps, the most distressing symptom of this most painful disease. In this patient the pulse kept very weak, but still sensible at the wrist; and I did not require to stop the circulation so much to produce reaction as to stop the painful cramps. Repeated large mustard poultices were applied to the abdomen, and scruple doses of calomel and large doses of laudanum, produced little or no effect. The weakness increased towards evening, when the ends of the fingers became cold and blue. A quart of salt water, with a drachm and a half of laudanum, was thrown up the rectum, and appeared to be of use. Half an hour afterwards it was returned little changed. He felt more comfortable; had snatches of sleep towards morning; and, as his bowels had not been affected for 16 hours, 10 grains of the extract of colocynth and five of calomel, were given, and brought away a liquid bilious stool; followed by the secretion of urine. On the 14th of July he complained of pain in his head, which was removed by the application of a few leeches. He continued from this time to improve, though slowly, in consequence of a weakened constitution and the unhealthiness of the season.

The following conclusions may be deduced as to the use of the tourniquet in the collapsed stage of cholera, in exhaustion, &c.:—

1st. By its obstructing the circulation it immediately stops the distressing cramps of the extremities in cholera.

2nd. By increasing the quantity of the circulating fluid in the trunk, and thereby stimulating the heart's action, it removes morbid congestions, stops the secretions from the bowels, increases the animal heat, and powerfully tends to restore health.

3rd. By improving the vigour of the system, medicines act more powerfully, and in a more salutary manner in removing morbid actions.

4th. When the reaction has taken place by loosening the tourniquets with care, the determination of blood to the internal parts is diminished by its diffusion over the extremities, upon which the tourniquet had been placed. They are immediately to be re-tightened when there is any coldness or weakness experienced or any tendency to relapse. This must be most carefully watched for, and prevented.

5th. By increasing the volume of blood in the contracted circulation, the force of the heart is increased, local congestions are removed, and the whole system is strengthened.

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Art. V.—*On the Mechanical Restoration of the Apparatus of Vision.* By Dr. Debout, Paris, Editor of *The Bulletin Général de Thérapeutique Médicale et Chirurgicale.*

[There is no branch of surgery which has made more remarkable progress since the beginning of this century than that which seeks to remedy the deformities of the human body. Whilst surgeons seek, by bold and ingenious operative proceedings, to extend the limits of autoplasty, instrument-makers in their own department compete with them in their efforts, and do not fear to compare the results obtained by the mechanical with those furnished by organic prothesis. Nothing can be more interesting than to study the real resources which this contest has produced. Dr. Debout has undertaken this task, and has furnished us recently, in the paper, published in our thirty-third volume, on "the Mechanical Remedies for Cleft Palate," with a description of the excellence arrived at by mechanical artists in remedying this deformity. He

still pursues his work with the most laudable zeal, and purposes soon, we understand, to publish a work on Restorative Surgery.

The article which we now publish is a new chapter of his studies; and a portion of it has already appeared in the journal of which Dr. Debout is himself the editor. The author dwells only on the facts that have come under his own observation, and he asks us to produce this second fragment of his work in order to make an appeal to the surgeons of our country. "If," he says, "the French manufacturers have almost a monopoly of the construction of mechanical apparatus, there are also, in other countries, ingenious artists who have contributed effectively to the progress of prothesis; and surgeons who have witnessed their efforts should come forward to give us an account of their results;" and our colleague will gladly avail himself of any observations which will enable him to complete his work.—Ed.]

Of the senses having their seat in the face, there is not one whose deformities require more imperatively the intervention of restorative surgery than the apparatus of vision. The integrity of the accessory parts of these organs is of the utmost importance: thus, the eyelids in no way contribute to the functions of sight, yet their destruction soon entails the loss of the ocular globe.[a] The study of the lesions of this apparatus furnishes us with many examples of the application of prothesis, either devoted exclusively to the improvement of vision, as spectacles, or, to the restoration of a destroyed organ, as in the use of artificial eyes. In fact, there are none of the malformations of the eye—not even those which do not interfere with vision, such as the hypertrophy of the covering of the inner angle, to which the name of epicanthus has been given—which do not demand the intervention of art.

This simple enumeration, incomplete as it is, suffices to show the extent and variety of aid required; but, at present, we shall limit our observations to the lesions which require the aid of mechanical apparatus. It is the artificial eye, with the services it is capable of rendering, that shall be particularly considered in this article.

[a] The ancients were well aware of this fact. Thus, the Carthaginians, in their resentment towards Regulus, believed they could not make him submit to a more horrible punishment than the removal of his eyelids. The history of the Crusades also shows us the cruel spectacle of Christians from whom their conquerors removed their eyelids, and who lost, consequently, not only their sight, but their eyes themselves.

## ARTIFICIAL RESTORATION OF THE GLOBE OF THE EYE.

Although shaded by the arch of the eyebrows, and veiled by the eyelids, the eyes shine with so much light, and shed around such brilliancy by their transparency, by the contrast of their colour, and by their mobility, that they predominate over all the other parts of the face. Thus, the loss of one of the eyes creates such a deformity that the necessity for hiding such a mutilation was soon felt. The experiments of this prothesis may be traced back to the most remote antiquity; but, nevertheless, it is only since the beginning of this century that artists who devote themselves to the manufacture of artificial eyes have succeeded in making pieces so perfect that, when they are introduced under the eyelids, the illusion is complete. In the employment of apparatus destined solely to restore the form of the lost organ, mediocrity in the result cannot be tolerated. Here it is all or nothing; for if we cannot succeed in completely hiding the deformity, we aggravate and augment it.

We have elsewhere dwelt on the reality of the resources offered by ocular prothesis in the following terms (*Bulletin de Thérapeutique*, Tom. LXI., page 476):—"In an application of prothesis we are too much disposed to see only the object destined to conceal a deformity; from thence, doubtless, proceeds the small amount of attention which we pay to the real resources of this branch of surgery. It seems, even, as if we feared to compromise our dignity in devoting ourselves to its study; therefore we abandon it completely to those unfortunate mutilated ones who are obliged to have recourse to it."

How few are the surgeons who, in witnessing a purulent melting of the eye in a subject still young, can offer to him, as a source of consolation, the benefit of ocular prothesis; these hopes, nevertheless, would be all the better received if the patient belonged to those interesting classes of society in which each individual must provide for the wants of his existence by the exercise of a profession. Now, in our state of civilization, individuals who present any deformity offensive to the eye are debarred from many employments, even the humblest. How many persons would object, solely because she had lost an eye, to take into their service a servant? Look at that young soldier: a brilliant action has entitled him to be promoted with honour; but he has lost an eye in the fight—without the benefit of prothesis how could he pursue a career so well begun?

We ourselves, are we not each day, in our practice, exposed to a like danger? When opening a bubo may not a drop of pus be projected into one of our eyes, and there develop that formidable purulent ophthalmia which so rapidly destroys all eyes which it affects? May not a sharp instrument, during the course of an operation, escape from the hands, and strike us in the eye? We are all acquainted with hospital surgeons who, from these causes, have lost an eye; but, thanks to the resources of prothesis, their patients, and even the greater number of the pupils who, each day, follow their visits, are ignorant of the accident. How many of our readers, who have paid a visit to our regretted predecessor, have perceived that he also wore an artificial eye? To these too real motives for sympathy, which alone should cause us not to contemn the study of ocular prothesis, are joined others not less plausible, but which touch us more directly, inasmuch as they bring us back to our daily course—that of treating disease. As soon as the globe of the eye is atrophied the eyelids are deprived of their support; they can no longer move themselves, therefore remain almost always closed. The lachrymal and Meibomian glands, not being altered, continue to secrete, so that the liquids, which they unceasingly furnish, collect in the orbital cavity, and produce inflammation. This soon causes inversion of the eyelids, of which the lashes sweep the ocular stump, often producing obstinate headache. The best means of treating these accidents, both general and local, is by resorting to prothesis. As soon as an artificial shell is introduced between the eyelids these membranous veils recover their freedom of motion; the circulation is restored to its normal state, and reacts on the secreting surface of the conjunctiva, and also on the ocular stump. One of the greatest benefits of prothesis (of which we shall furnish, further on, a remarkable example) is in a case where, notwithstanding the destruction of the cornea, the sight is not completely lost—when the patient can distinguish light from darkness, and where the brilliancy of a strong light, making an impression on the retina, reacts on the sight of the healthy organ. An artificial shell applied to the diseased eye in this case serves as a screen, and prevents further inconvenience to the healthy eye. The same phenomenon is observed in certain cases of monocular cataract, and causes great annoyance in the use of the healthy eye, from whence arises deplorable errors in the practice of ophthalmology.

But, in order to produce these good effects, it was necessary that

the industry of the artist should at length have succeeded in giving us enamel shells as perfect as those in use at present. Yet, for many centuries, the unceasing attempts of art have only borne witness to the strength of that instinct which induces man to hide his deformities.

The history of artificial eyes brings us back to an epoch long anterior to the Christian era. In proof of this we have the painted pieces which are seen placed between the eyelids of a great number of Egyptian mummies. In our museums of antiquities are also to be seen some statues with silver, and others with gold enamelled eyes. In spite of its antiquity, the art of making artificial eyes has made but slow progress, since we still find that in the sixteenth century prothesis was only applied to maintaining, in front of the closed eyelids, a metallic plate on which was painted an eye surrounded by its membranous veils. These plates were fastened on by a string which surrounded the head. This description of eye seems to have disappeared very slowly, as one of our contemporary authors, Rognetta, mentions having seen an invalid who still wore one of these eyes (*ecblepharos*). "I admit," adds he, "that I prefer a hundred times a simple black bandage to such a clumsy placard." The figure represented in the work of Ambrose Paré appears to offer us an example of this (*ecblepharos*).

One sees, in the same chapter of this author, the representation of a plate made of enamelled gold, of the colour of the natural eye, intended to be placed under the eyelids (*hypoblepharos*); but whatever might be the skill of the painter, his pencil could not depict the fulness or curve of the cornea. Add to this that these plates must be immovable, on account of their having no connexion with the subjacent ocular stump, and we may rest assured that these eyes were in themselves deformities.

If one reflects, besides, on the representation which is given us of these pieces, we may well be doubtful of their utility. The acuteness of the internal angle of the artificial eye cannot fail to wound the caruncula lachrymalis, and the similar disposition of the external angle must interfere with the maintenance of the piece in the orbital cavity, and allow it to slip from between the eyelids.

Later on they attempted to give these metallic plates the form of a shell, better adapted to the configuration of the cavity destined to receive it; but all these experiments, however ingenious they may have been, failed to produce any practical result. The gold plate, prepared to receive the layer of enamel, always gave these artificial

eyes a considerable weight, so that these pieces soon caused inflammation of the tissues on which they rested.

At length, the first trial in making enamel eyes took place; but, for a long time these were only used for ornamenting the heads of dolls and marionnettes—afterwards, for animals intended for natural history collections.

The development of the manufacture of artificial eyes at last produced pure enamel shells, extremely light, and to which were given the exact form of the human eye—that is to say, they had a projecting cornea. This was a real and considerable progress which should enable prothesis henceforth to answer to the requirements of practice, the rest being necessarily the result of experience—the work of time.

And now, the makers of artificial eyes have succeeded in imitating the transparent cornea, the anterior chamber, the radiating form of the iris, the pupil, the sclerotic, and the vessels of the conjunctiva, with such a degree of perfection that it is often difficult, not to say impossible, to distinguish the fictitious eye from the natural one.

If we add, that with these improvements, the clever artists who devote themselves to this speciality, contrive, by ingenious sections at the edges of the shells, to adapt them to all the irregularities of the surface of the lost eye, so as to take advantage of the mobility of the stump in order to establish complete harmony between both eyes, we can imagine to what a degree of perfection the art may attain.

I have frequently witnessed the following occurrence:—When a patient, wearing an artificial eye, presents himself at the clinique of M. Sichell, this clever ophthalmologist requests one of the pupils who attends his class to make a diagnosis of the affection from which he suffers. After an attentive and minute examination of the eyes, the young student reports an immobility of the pupil of one eye, and, sometimes, a more or less increased density of the globe—never have I seen the existence of a prothetic piece recognized—and great, invariably, has been his surprise on being told that the eye, on the disease of which he had been discoursing, was an enamel one.

The various figures which we publish explain, by the numerous and diversified forms of the edges of the shells (see Fig. 6, 7, 8, and 9), how the application of an artificial eye no longer requires a previous operation; and the use of enamels, which resist for a greater length of time the dissolving action of the humours of the

orbital cavity, each day lessens the great misfortune of losing an eye.

Thus, in the treatise of Hazard Mirault, published in 1818, we see that this artist recommended the artificial piece to be changed, every six months at least, whilst M. Boissonneau, in the paper which he read at the Ophthalmological Congress of Brussels, mentions a period of double that duration:—"The polish of the artificial shell lasts," he says, "for more than a year; and at the end of that time they have merely lost their brilliancy, without ever becoming uneven on the surface."

### THE ADAPTATION OF ARTIFICIAL EYES.

Success in the adaptation of an artifical eye depends on the exactitude of the relations which are established between the artificial piece and the oculo-palpebral cavity which is to contain it; and the anatomical conditions vary with the cause which has produced the loss of the organ, thus :—

1st. The disease may have destroyed the function without altering, so to speak, the form of the organ; the ocular globe may be merely a little atrophied, as at the end of purulent and variolous ophthalmias, &c.

2nd. A staphyloma of the transparent cornea, or of the sclerotic, may have developed itself at the end of the ophthalmia.

3rd. Wounds, in destroying the ocular globe, may have injured the eyelids and produced adhesions, by cicatricial bands, between these organs. When any loss of the substance of one of the eyelids exists the complication is still more grave.

4th. As a consequence of the extirpation of the eye, two conditions may present themselves—either the organic lesion may have been still intraocular, and the surgeon has been able to put in practice the proceeding of Bonnet, and enucleate the globe—or else the disease may have extended beyond the limits of the eye and invaded the surrounding tissues, rendering it necessary to remove all the contents of the orbit.

In the first of these cases the preserved muscles impress on the stump movements sufficiently extensive to enable the patient to wear an artificial eye with advantage. It is not so in the latter case, when, the muscles having been removed, the aid of prothesis must limit itself, even under the most favourable circumstances, to the employment of an artificial piece, which will generally remain motionless.

LOSS OF THE EYE IN CONSEQUENCE OF OPHTHALMIA.

These cases are the most frequent, and are those in which prothesis furnishes the best results; we ought, therefore, to give them especial attention, and so much the more, as our classical authors, even the most authentic, are full of errors on this point.

Thus, Boyer, in the first few lines of his treatise, which he devotes to artificial eyes, says:—"The globe of the eye must be diminished at least one-third in order to have an enamel piece adapted to it." Most subsequent authors have repeated this instruction; from thence proceed those operations which aim at reducing the volume of the eyes before bringing the patients to artists who apply the artificial pieces.

Prothesis does not require these preliminary operations; on the contrary, the less the globe of the eye is diminished in volume the less the eyelids droop, and the more the region of the eye preserves its normal projection; therefore, in these cases, the face is scarcely deformed, even prior to the application of the artificial eye.

The support which the piece receives from the voluminous stump allows of its being made equal in size to the healthy eye; the eyelids cover it easily, and arrange themselves in regular folds, and the harmony of the aspect is complete. It is, therefore, most important to preserve, as much as possible, the volume of the lost eye (as far as the nature of the disease or the operation renders it practicable)

The prothetic piece finds on the voluminous globe of the eye, a part of its support, which it derives, on the contrary, entirely from the conjunctiva, when the globe is much atrophied; the pressure which the eyelids exercise on the artificial piece is then supported by a greater extent of surface; and, therefore, there is less cause for fatigue. So that we seldom see in these favourable cases those granulations supervene which too often appear in the cavity when the globe is much atrophied, and always when the patients neglect to renew their shell in good time; these morbid productions diminish the extent of the oculo-palpebral cavity, and injure the appearance of the restoration as well as the mobility of the piece.

Those patients who have the ocular stump large and voluminous will always be able to wear their shell for a greater length of time in good condition than those who possess little or no stump. We know many persons—amongst others, two of our medical brethren—who, abusing the advantages they derive from having a voluminous globe, have worn the same shell for many years—one of them not being even taken out for more than a year.

In one of the patients of M. Boissonneau, junior—a most negligent man (his fortune forbidding all idea of economy), who had worn for two years and a half a shell already a little worn—this oculist remarked that the granulations, although very small, had almost the consistency of horn. When this accident happens the upper eyelid no longer folds so well, and falls more than the healthy one.

Thus we see, when the globe of the eye remains large, not only is it more easily used, but it remains a much longer time in these conditions than when the eye has been atrophied; which, however, does not prevent persons who take the necessary precautions (and they are very simple) from wearing for an indefinite time, in very good condition, a shell which has no other support than the sinus of the conjunctiva. We are convinced of this from observing it in a great number of old people—amongst others a M. F., a patient of M. Boissonneau, whose left eye was diminished at least three-fourths. The cavity did not show the slightest trace of vegetation, although he assured us that he had worn artificial eyes from the age of nineteen, and he is eighty-three at present. From the appearance of the shells we would have thought it desirable to have had them somewhat smaller.

The artificial eye receiving at the same time its movements from the stump, and from the conjunctival sinus displaced by the globe of the eye, we can understand that the more voluminous the globe the more extended will be the motions which it will impress on the artificial shell in this respect.

The advantage which the volume of the stump presents is not less evident. The only inconvenience of these large globes (if it is one, which we do not think) is to necessitate the use of artificial shells perfectly fitted. It is indispensable that the stump of the eye should not be compressed by the enamel shell; and this ought to be constructed so as to preserve a regular position in the very extended movements which the bulb conveys to it. Thus we see the difficulties are confined to the artists; and as the patients derive benefit from this, we need not hesitate with respect to these voluminous stumps, whatever some specialists may say on the subject.

It cannot be too often repeated, that a piece, well adapted, produces the most beautiful results; but in order that the patient may profit by it we must not too long delay its introduction. In this way may be prevented the sinking of the eyelids—the movements of which exercise so great an influence on the expression of

the face. M. Boissonneau, junior, in his notice on "Artificial Eyes," has given drawings of the principal modifications which the oculo-palpebral region undergoes after atrophy of the eye destroyed by ophthalmia. We have borrowed these illustrations from him; they are most interesting, and serve to prove the advantages of an early use of artificial pieces.

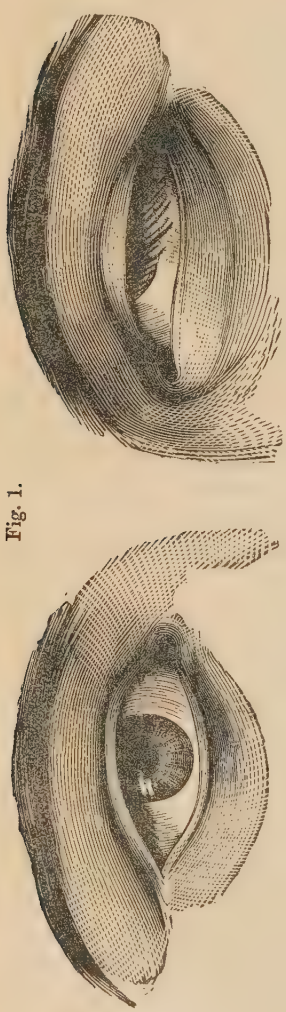


Fig. 1.

The first figure represents both eyes of a woman thirty years of age; the left eye, which has been lost, is in the most favourable condition for the adaptation of an artificial eye. The globe of the eye is diminished about a fifth of its natural size; it has preserved its spheroidal form; the transparent cornea is completely disorganized; and one perceives in the place which it occupied a cicatrix, generally of a greyish colour, which is more or less extended according to circumstances. This case may be the result of the ablation of a staphyloma —part of the cornea and the iris only being taken away. In this case the artificial piece finds a solid support on the stump of the eye, as well as a most useful source of motion. All cause of sensibility is destroyed, and the deformity of the face is no longer to be feared.

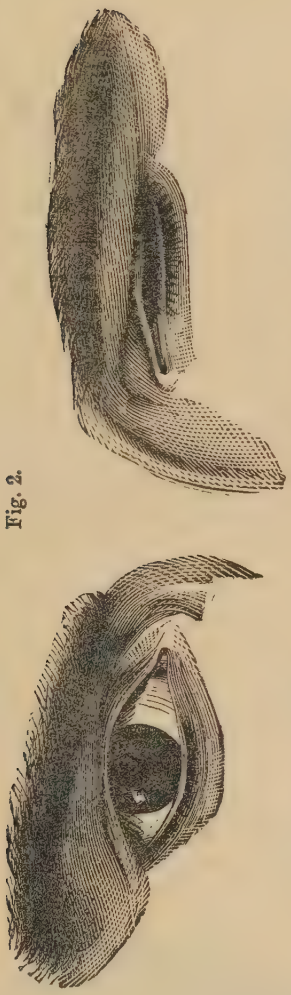


Fig. 2.

The second figure gives the exact representation of the region of the eye in a subject twenty years of age, who lost the left eye in his infancy, at the age of six months, after purulent ophthalmia. The atrophy of the globe was complete; the eyelids, after being depressed, had contracted, for want of the support of the globe ; they remained immovable, and their development was arrested. The bones which constitute the orbital cavity have gradually approached each other; the frontal is considerably lowered ; whilst the malar is on a higher level than at the side of the healthy eye. The healthy eye has also shared the deformity, as the obliquity of the inner side of the eyebrow indicates.

If, in a case like this, we examine the features of the patient, we will perceive that the whole side of the atrophied eye is shrunken and wasted, whilst the side of the healthy eye presents the rounded curves of a normal development. In this case ocular prothesis can but imperfectly remedy the deformity. The artificial eye will be smaller than the healthy one, and its mobility scarcely perceptible.

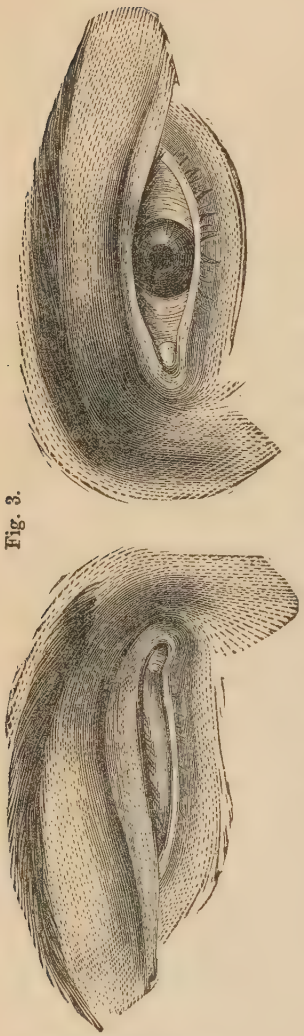
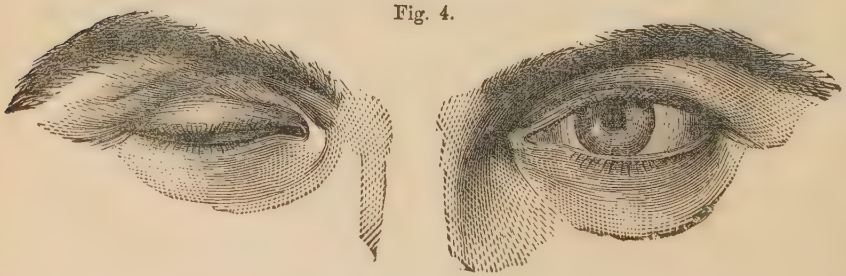


Fig. 3.

The third figure represents the eyes of a young girl of 18. The left eye is healthy, and of large dimensions; the right eye is lost. The globe, which was affected by a staphyloma, underwent an ablation of its anterior quarter. The work of cicatrization was complete about a month after the operation, and the globe preserves but a third, or about the half, of its normal size. Its anterior part presents a smooth surface, the eyelids are sunk down on the ocular stump, but the short time which has elapsed since the operation has not permitted of the tissues contracting.

The size of the artificial eye may equal that of the healthy one, but its movements will not be as extended as in the case represented by Fig. 1.

Fig. 4.



The fourth figure represents the eyes of a man of 40 years of age. The left eye is healthy; the right eye, which is lost, has undergone no operation. It became atrophied after the disease with which he was affected. It is reduced to half its size, and has preserved a spheroidal form, so that its anterior part is rounded. The diminution of the globe commenced some months back; therefore the eyelids are sunk on the stump, and their tissues are already contracted. The palpebral opening has lost about a fifth of its extent.

The use of the artificial eye may dilate the eyelids, and enable them to regain all the amplitude which they have lost.

In this case the size of the artificial eye will be but very little smaller than the healthy one, and its mobility satisfactory.

### THE ARTIFICIAL EYE CONSIDERED AS A SCREEN.

It often happens, in cases of external ophthalmia, that the whole cornea is not completely disorganized, but that it still admits some luminous rays to penetrate the interior of the eye. The retina not being affected, the patient receives an imperfect impression of light; and clinical observation has shown that this imperfect sensorial impression reacts injuriously on the vision of the other eye. The aberration of vision at last increases to such an extent that the patient has to seek medical advice. The morbid phenomena are generally unknown; and treatment is useless, if not dangerous. We allude to that intemperate surgery which does not hesitate to extirpate the affected eye; just as if it should prescribe the removal of a finger because of a thorn in it, in order that the disease may be cured in a more certain manner.

The most simple and efficacious method of preventing these affections, and of removing them when they exist, is the use of the artificial eye. The enamelled shell then acts as a screen, which prevents the entrance of light, and at the same time conceals the deformity.

Prothesis in such cases is a work of considerable delicacy. The tolerance of the artificial shell depends upon the degree of the disorganization of the cornea. This part is, in fact, the seat of the extreme sensibility of the organ to contact with foreign bodies. When the cornea is not completely disorganized the application of an artificial eye is only possible when the posterior aspect of the shell is hollowed out in such a manner as not to touch the portion of cornea which still remains sensitive. A clever artist may always

succeed in overcoming this difficulty, which is sometimes considerable, as we should bear in mind.

After the shell has been worn for some time, the patient does not hesitate to say to you:—"I know not to what, to attribute the improvement in my sight; but, unquestionably, I see better since I have worn my artificial eye."

The following is an example:—

*Loss of the Right Eye; Partial Atrophy of the Globe; Staphyloma of Iris and Cornea; the Sensorial Impressions of this Organ Disturbing the Function of the Healthy Eye; Adaptation of an Artificial Eye; Rapid Improvement in the Sight.*

Maria G., aged 19, admitted in May, 1862, into the Clinical Hospital, for a staphyloma of the iris and cornea. The loss of the eye was of two months' standing, the cause being a violent internal ophthalmia. Although the sight was completely destroyed, and the patient could not distinguish any object, she still received a qualitative impression, and could discern at which side of the apartment the light entered. This slight sensorial impression was sufficient to affect the vision of the healthy eye. The patient, however, had no knowledge of it, as she had not as yet returned to her work. She had presented herself at the hospital to have the tumour removed, which, she had been told, was indispensable before an artificial eye could be adapted. M. Nélaton, not having undertaken anything of this kind, sent for M. Boissonneau, junior, to ascertain from him if an artificial shell could be introduced without resecting the staphyloma of the cornea; and upon his giving an affirmative answer, the young girl was sent to him.

The work of prothesis was very delicate. The globe of the eye was partially atrophied; and, further, the cornea was completely disorganized, forming a staphyloma, on the surface of which were three points, not so solidly cicatrized as the rest, through which the iris protruded. Moreover, the palpebral aperture was on a lower horizontal plane than that of the healthy eye, which always occurs whenever, during an attack of ophthalmia, the eye acquires a development which exceeds its normal size. Such was the condition of the oculo-palpebral region when M. Boissonneau was called upon to adapt an artificial eye. To suit these organic peculiarities this artist had to construct a shell which should only exercise upon the staphyloma, as upon the rest of the eyeball, a

pressure equally light and regular. This he accomplished by making an excavation, corresponding to the staphyloma, destined to receive the protrusion of the cornea, so as to avoid all cause of inflammation of the globe of the eye. The effort was crowned with complete success. The patient wore the shell without any inconvenience; and after the lapse of a few days, when she was quite accustomed to it, she assured us that she was quite at ease with her artificial eye. What struck her most, and which she could not understand, was the improvement which was produced in the healthy eye. The pupils could not explain the phenomenon any better, the majority of them being present at the adaptation of an artificial eye for the first time.

The only desideratum wanting in this operation was the raising of the palpebral opening which was a little too low. This was not the fault of the artist, and time alone could remedy the difference in level between the two palpebral openings. The stretching of the eyelids, by a greatly enlarged eyeball, is analogous to the stretching of the abdominal muscles in ascites; it is necessary for a certain time to elapse before the tissues can again resume their former tonicity.

When the patient left the hospital, two months after her admission, the staphyloma seemed to have diminished; the hernia of the iris no longer protruded, and the cornea at these points was more firmly cicatrized.

In the case under the care of M. Nélaton the use of the artificial eye may be considered as a preventive of the aberrations of vision, the loss of the eye being of two months' standing. But as I have before stated the aberrations may become more intense, and the nature of the morbid phenomena may escape the sagacity of the medical attendant, and the remedies, consequently, be useless.

The following case is that of a lady who was confined to her apartment for eight years, and who, five days after the application of an artificial eye, recovered her former sight:—

*Incomplete Disorganization of the Cornea; Functional Aberration of Vision in the Healthy Eye, causing the Sequestration of the Patient for Eight Years; Application of an Artificial Eye; Rapid Cure.*

Madame X., the mother of one of our medical celebrities, lost her right eye, after an attack of ophthalmia, in 1848. Although vision was completely destroyed, yet sufficient sensorial impressions

persisted to react on the healthy eye, so that it was so sensitive to the action of wind, cold, and damp that, notwithstanding the use of very dark blue spectacles, she suffered to such a degree that she had to confine herself to her room. All the means employed were of no avail, and she believed herself the victim of an incurable disease. At last, after a seclusion of eight years in almost complete darkness, she determined to come to Paris for advice. Her father sent her to M. Desmarres, who, not finding any inflammation of the disorganized eyeball, advised her to try the effect of an artificial eye, and sent her to M. Boissonneau, junior.

The eye was only diminished about a fifth part of its natural size; the cornea, not being completely destroyed, was very sensitive, so that the prothetic shell had to be constructed so as to avoid all contact with this part. After several trials this clever artist at last made a shell[a] (Fig. 5) which the patient could wear, and which she could at first wear for an hour, afterwards for two. At last, on the fifth day, she wore the shell for the whole day. Under the influence of this screen the unpleasant symptoms ceased immediately, and the health and spirits returned to their former condition.

Fig. 5.

This lady has worn her artificial eye for seven years, and has returned to her former habits. She can walk out in all weathers, and go into society, and neither the inclemency of the weather nor the glare of the lights have any injurious effect upon her.

Had the eye been extirpated the result could not have been more complete; but then the artificial eye could not have been so well adapted.

While considering the subject of prothesis we do not wish to enter into the question of extirpation of the disorganized eyeball in cases in which the lesion of this eye reacts on the function of the healthy eye. A question of such importance, and of so serious a nature should not be discussed in an incidental manner; we shall, however, again return to its consideration. Notwithstanding the title of this paper we shall venture to give the history of a case in which this practice failed, and which will, at the same time, be an example of the rare condition in which ocular prothesis is inapplicable.

[a] In this and the following figures the letters E and I mark the points coresponding to the external and internal angles of the eye. This piece is represented so as to show the depth it was necessary to give it so as to avoid all contact between the cornea and the shell.

*Neuralgia Complicated with an Ocular Concretion; Extirpation of the Eye; Impossibility of the Application of Prothesis.*

Madame X., a wealthy Spaniard, 50 years of age, suffered, from time to time, for several years, from neuralgia in the right oculo-palpebral region. In the year 1860, when travelling in Germany, her eye was attacked with an acute inflammation. Being near Berlin, she hastened to place herself under the care of Professor Graëfe. This talented oculist discovered that the complications were caused by a calcareous concretion—he proposed to the sufferer to have the eye extirpated. The operation was performed according to Bonnet's method (of Lyons); the eyeball was enucleated so as to preserve the muscles. The patient recovered rapidly; and the cavity which remained beneath the eyelids was quite suitable for the adaptation of an artificial eye The lady hastened to Paris, in order to secure more fully the advantages of prothesis. On her arrival, two months after the operation, Madam X. was sent to M. Boissonneau by Dr. Dunglas, who attended her during her residence in Paris. The oculo-palpebral cavity was, as we have said, in the best condition in which it could be after such an operation; there was no inflammation, cicatrization was complete, and the small stump formed by the re-united muscles preserved sufficient power of motion to communicate some to the artificial eye. In a word, every circumstance seemed favourable for as complete a result as could be expected after the eyeball had been cleverly and successfully extirpated. The patient, medical attendant, and oculist had no doubt of success, but they were all disappointed. The first eyes tried by M. Boissonneau were worn without inconvenience; their volume was gradually increased, but not equal to that of the healthy eye. These trials were received with gratitude, for the artificial eye, by everting the eyelids, prevented the ciliæ from irritating the conjunctiva; but this success was not of long duration, and the lady was obliged to forego the benefits of prothesis, notwithstanding that the smaller shells did not exert any pressure on the stump, nor any twitching of the eyelids, the inconvenience increased; the mucous membrane became irritable; and the neuralgia returned. Numerous modes of special treatment were employed without advantage, and for two years this lady could not bear the artificial eye for more than one hour at a time, and even then not every day.

This failure of prothesis is, I must say, an exception; nevertheless, I thought it well to report it, to show the caution with which we should proceed when we have to remove an eyeball.

THE DISPOSITION OF THE SHELL WHEN THE EYELIDS ARE ADHERENT TO THE OCULAR STUMP.

Of all the lesions complicating the loss of an eye there are none which render the work of prothesis more troublesome than the presence of bands and adhesions between the eyelids and the globe of the eye. In fact, when the adhesions are numerous, the artificial shell has little or no capability of motion, because the stump, which is the chief agent in moving the shell, is itself fixed by these cicatrices. The difficulty is still greater if the eyeball is much atrophied, for the eyelids are then drawn backwards, and the artificial shell cannot push them forward so as to restore their normal prominence.

It is well known that surgeons obstinately continue to endeavour to destroy these obstacles so as to facilitate the adaptation of the artificial eyes; but their efforts, in this respect, only serve to render the task of the oculist more difficult, if not impossible. We do not hesitate to insist on the unfortunate results following from even those operative proceedings which have been most praised, for this serious error is far from being corrected by the numerous failures. Of this we can give recent proof—for only yesterday we were consulted by a poor girl, who had been waiting with impatience for six months to have her deformity redressed, so that she might return to her situation. She continued in this deplorable condition —as the oculist into whose hands she had the misfortune to fall wished to apply one of those methods which he was in the habit of obstinately employing. I sent her to M. Boissonneau, junior, and in a fortnight she will return to her situation; and it was high time, for her means of support are exhausted.

It is, therefore, necessary to impress upon surgeons the truth—that all their endeavours to destroy a synblepharon are useless,[a] particularly when the palpebro-ocular adhesion extends to the bottom of the conjunctival sinus. When it is desirable to employ a prothetic shell, the simplest method is to leave to the ingenuity of the artist employed to make the eye, the formation of indentations in the border of the enamelled shell corresponding to the cicatricial bands. These lesions, though inconvenient, and rendering the adaptation of the shell more difficult, are not insurmountable, for they are generally limited to the lower eyelid. The following cases are proofs of what has just been stated:—

[a] Except Mr. Teale's operation, which is most effectual.—Translator.

*Atrophy of the Eye, complicated with Adhesion to the Stump, extending superiorly to the bottom of the Sinus.*

M. X., a notary, aged 29, was wounded when out shooting. A grain of shot penetrated the left eye, having passed through the upper eyelid, near the internal angle. The eyeball was disorganized and atrophied to about half its natural size. At the point where the shot penetrated, an adhesion formed between the eyelid and the globe. The wound had involved the bottom of the conjunctival sinus.

The inflammation continuing for a considerable time after the wound was healed—that is to say, after the atrophy of the globe of the eye—M. X. was unable to avail himself of the advantages of prothesis for four months after the accident. During this time the eyelids lay in contact with the ocular stump; their tissues were retracted, so that they became shortened in their extent.

Two indications had to be fulfilled by the artificial shell—firstly, to fit them upon the band without exerting more pressure upon it than on the rest of the conjunctival sinus; secondly, to restore the eyelids to their primitive width, and preserve this. The indentation at (A Fig. 6) is to receive the adhesion, whilst the depression at (E) rides upon the fold which the conjunctiva frequently forms after atrophy of the globe. The object of this arrangement is to maintain the separation of the angles of the eyelids as in the healthy eye, which the traction maintained by the cicatricial band on the opposite angles had a tendency to destroy.

This shell is movable, does not give any inconvenience, and M. X. has used the same model for eight years.

Fig. 6.

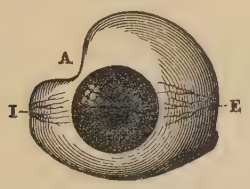
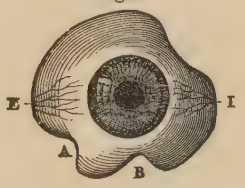



Fig. 7.




*Disorganization of the Eye; a Double Cicatricial Band of the Inferior Eyelid; a Double Indentation in the Border of the Shell.*

M. de X.; his gun burst in his hand when out shooting. A portion of the barrel wounded the right eye in two places, which implicated the lower eyelid and the eyeball; the latter was

disorganized. The two wounds of the eyelid gave rise to two cicatricial bands which involved the whole depth of the conjunctival sinus; onewas situated near to the external commissure, the other at the external third of the lid. Professor Nélaton, under whose care the patient was, left these adhesions untouched, knowing that M. Boissonneau could triumph over them.

Fig. 7 represents the shell which this artist made for the case. The two indentations A and B, on the inferior border externally, correspond to the two bands, on which they rested without irritating them. The eyeball, being rather more than half its normal size, communicated a considerable degree of motion to the shell.

M. X. has worn this model for two years and a-half.

Cicatrices following burns are more tense than those after other injuries. A simple indentation is not then sufficient; it is necessary that the edge of the shell which corresponds to the palpebral adhesions should be disposed so that it may rest upon the adhesion without exciting inflammation.

*Eye Disorganized by a Burn; Synblepharon Uniting the Inferior Eyelid to the Eyeball throughout its External Half.*

M. de X., aged 30, professor of chemistry in an Italian university, was one day in his laboratory, engaged in making an experiment, when the matrass, which he was about to put upon the fire, exploded. Some drops of the acid were splashed into his left eye; and, notwithstanding the means he at once applied to neutralize the effects, the cornea was destroyed, the vision lost, and, finally, the lower lid united partially to the eyeball. Professor Marcacci, of Pisa, was called upon to attend the case; and when he was cured sent him to M. Boissonneau.

Fig. 8.

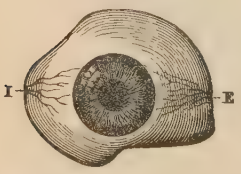



Fig. 8 represents the artificial eye which this artist constructed to conceal the deformity of this wound. Its general conformation is that of a shell constructed to fit a voluminous ocular stump, except that the lower edge is very much sloped off so as to suit itself to the synblepharon. Thanks to this arrangement the shell fits as well as if no complication existed. The artificial eye is equal in size to the healthy one, and its movements almost as well performed.

These bands may be caused by the improper use of artificial eyes. We shall here give some examples, for we cannot be too careful in

warning patients of the unpleasant consequences which sometimes follow the use of shells intended to conceal their deformity.

When the artificial eye is well made, and properly fitted, and is used with that prudence which common sense suggests, it gives no inconvenience, and may be said not to be in the least injurious. But, on the contrary, if the manufacture is left to fancy, and it is badly fitted, particularly if the shell is large, and if it is worn after the enamel is destroyed, and the surface roughened, and the inferior edge sharpened, or if it is not removed during the night, malformation of the oculo-palpebral cavity may always be expected to follow. It is generally the inferior sinus that first becomes affected. The mucous membrane swells, which increases the pressure on the affected part, and excoriation takes place. To this first effect on the palpebral conjunctiva the action of the roughened surface is added, and by this combination vegetations sprout up; these take the form of granulations which are often pedunculated; the patient then consults his medical attendant, who excises the vegetation, cicatrices follow, reducing the cavity, and the shell has to be diminished in size. When these accidents frequently recur the cicatrization extends to the bottom of the palpebral sinus, which fills up by degrees, and the eyelid at last becomes united to the eyeball throughout its whole extent, as in the case of a burn.

*Synblepharon caused by the use of Deteriorated Artificial Eyes of too Large a Size.*

Madame X., aged 30, by an inexcusable carelessness, and in spite of frequent warnings of the injurious effects resulting from wearing artificial shells for too long a time, allowed a synblepharon to form, so that at the end of 10 years she was obliged to forego the advantages of prothesis, and had to return to the bandage.

This woman kept one of the most frequented shops in the Chaussée d'Antin, and she was in despair at this misfortune. One of her customers came to me in the hope that I could recommend some artist to her who could repair her deformity. I examined the patient, and found that a portion of the centre of the sinus still existed which had not been filled up by cicatrization. I thought that M. Boissonneau, junior, could take advantage of this small cavity for the adaptation of an artificial eye.

Fig. 9.

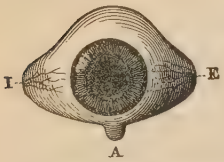



Fig. 9 exhibits the form and size of the shell constructed by this artist. The little appendix at the lower part, A, introduced into the only remaining portions of the inferior sinus, served to fix this part of the shell. The superior oculo-palpebral sinus had also lost much of its depth, indicated by the narrowness of the superior sclerotic segment of this shell. Enlightened by an experience so dearly bought, this woman removed her artificial shell from time to time, and for more than eight years she always used the same model.

At times, especially when the eyeball is much atrophied, very irregular-shaped tumours are formed, produced by the causes mentioned above. In such cases the construction of the artificial shell is a work of great delicacy, and requires a very clever artist.

*Considerable Atrophy of the Eye ; a Tumour produced in the Oculo-palpebral Sinus by wearing the Artificial Eyes for too Long a Time.*

Madame X., piano teacher, lost her right eye from an acute ophthalmia, when she was five years of age. Four years after the accident artificial eyes were employed; but, from the carelessness of her parents, the shells were rarely renewed, so that at the age of 19 she had to give up using them. In consequence of the irritation produced by the inferior edge of the shell, which was too large, and from which the enamel was worn off, a large cicatricial tumefied band formed, which was not firm enough to support the shell. The artificial eye was ejected from the oculo-palpebral cavity whenever she made any sudden movement. The patient had generally to wear a bandage to hide her deformity.

Madame X. had come to that period of life when the regularity of her features was all important to her. She intended to teach music, and depended entirely on her own talents for support. She could not prosecute her career unless she could abandon her bandage. She tried in vain the shells made by various oculists, until she discovered M. Boissonneau, junior, who, more fortunate than his *confreres*, made her a model which she uses to this day—when she is twenty-nine years old. *Fortunate* is not a term to apply to the efforts of M. Boissonneau; for this artist does not hesitate to devote six months to ensure success, and to construct more than thirty shells, of various shapes, before obtaining one that could be worn by the patient without inconvenience or fatigue.

The drawing which we give (Fig. 10) represents this shell, in profile, showing its external edge.

Fig. 10.

In shape this is very different from that of the artificial eyes of which we have been speaking. The following are the anatomico-pathological peculiarities which required this arrangement:—

We have already stated that this lady lost her eye in extreme youth, and that she did not commence the use of artificial eyes for several years after the accident. The partial atrophy of the disorganized globe and the absence of the prothetic shell for four years, gave rise to a remarkable arrest of development in the orbital cavity. We may add, that there were numerous cicatricial bands, nearly all more or less tumefied, which had been produced by the prolonged use of the first shells; and this explains the remarkable contraction which the oculo-palpebral cavity presented. The chief obstacle to the work of prothesis was a thick band which occupied the whole inferior conjunctival sinus, and extended from one angle of the eye to the other. M. Boissonneau had, in the first place, to dilate the cavity, so as to render it capable of receiving a shell, which should correspond in size to the healthy eye. Then to form a point of solid support, without exciting irritation. He attained his object by forming an artificial sinus behind the swelling, which, as we have said, occupied the whole inferior sinus. The shell was made so as to rest and to hook itself at the same time in the new sinus, with the assistance of the superior border of the shell, which was curved backwards and downwards. The cicatricial band lies between the prolongation (O) and the inferior edge of the shell, which only rests on the back of the free ciliary border. As the adaptation is perfect, no one could suspect, even on a close examination, that the shell does not rest as usual in the conjunctival sinus.

The shell is so firmly fixed that the lady can make any movements without fear of its falling out, and is able to wear it the whole day. In fine, with regard to appearance and motion, the effect is so satisfactory to this lady that she has been able to resume her teaching, and to go into society without her deformity being suspected by anyone She married very suitably some years ago.

It was in 1852 that M. Boissonneau invented this model for Madame X. She has worn the same kind ever since. Under their use there has been no fresh unpleasantness, and the cavity is so much improved that M. Boissonneau is now engaged preparing one for her of a less complicated form.

## APPLICATION OF AN ARTIFICIAL EYE AFTER EXTIRPATION OF THE EYEBALL.

The lesions which necessitate the extirpation of the eyeball may be limited to the internal structures of the organ, or may have engaged the surrounding tissues.

In the first case, enucleation of the eyeball is all that is necessary; whereas, in the second, the surgeon has to sacrifice a considerable amount of the neighbouring parts.

The condition of the orbit varies considerably after such operations, and the deformity is always considerably greater than when the eyeball is simply atrophied.

Where it is possible to remove the eyeball according to M. Bonnet's[a] method, the muscles and the greater portion of the conjunctiva being preserved diminishes the size of the cicatrices, and the rapidity with which the wound heals renders the cicatricial structure less liable to contract; moreover, the stump is movable, and can communicate its motion to the artificial shell. It is very different when all the structures contained in the orbit have been removed. The eyelids are drawn backwards by the cicatrices, so much so that in some cases the eyelids are found to be on a plane a centimètre posterior to those of the healthy eye. They are also frequently drawn into folds by the cicatricial bands, which diminish their extent.

The variations in the orbital cavity are not less various; the granulations frequently contract when cicatrized, to such an extent that it is impossible to apply an artificial eye; or, if possible, the shell should be so small that it could be of no advantage to the sufferer.

The indications to be provided for by the prothetic shell increase in proportion to the defective condition of the orbit after extirpation. In fact, the artificial shell should only push the lids forwards, so as to diminish their retraction. The eyelids do not recover their colour and shape unless particular attention is given to the convexity of the enamel shell. It must also be so constructed that it may fit a very irregular cavity without giving uneasiness. It should also reëstablish the conjunctival sinus, so as to avoid lachrymation. Finally, it should dilate the cavity so that the artificial eye may be made as nearly as possible equal in size to the healthy one.

The motions of the artificial eye, which are generally limited and often none, have lastly to be attended to.

[a] Of Lyons.

Many surgeons, fearing the results which might arise from a foreign body, such as an artificial eye, being placed in an orbit from which the eye had been removed for a disease having a tendency to return, hesitate to employ an artificial eye, notwithstanding the great desire expressed by the sufferers to conceal the deformity which resulted from the operation to which they had submitted. The results furnished in the following four cases show how little foundation these fears have in fact:—

*Melanotic Tumour; Enucleation of the Eyeball; Artificial Eye worn for Thirteen Years.*

M. A., when 34 years of age had his left eye extirpated by Professor Velpeau, in the year 1847; this operation was required for a melanotic degeneration of the internal structures of the eyeball, and limited to them. The method of operation adopted was that of Bonnet, of Lyons. The muscles and conjunctiva being preserved, formed, when healed, a small stump, which communicated tolerably decided movements to the artificial shell. The cavity was rather

Fig. 11.

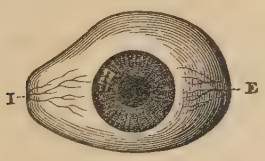
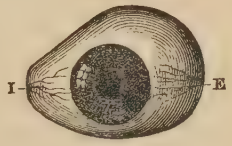



Fig. 12.




larger than usual. When healed, M. A. was sent to M. Boissonneau, junior, to make an artificial eye for him. For thirteen years he has always employed the same model, and, as it has been always carefully fitted, his prothetic shell has never caused him the least inconvenience.

*Tumour of the Maxilla developed in the Cavity of the Orbit; Extirpation of the Tumour and Enucleation of the Eyeball; Artificial Eye worn for Eighteen Years.*

M., four years old, was admitted into *La Charitè* to have a tumour removed, which sprang from the maxillary border, and grew into the cavity of the orbit. Vision being destroyed, Professor Velpeau removed the globe of the eye along with the morbid growth. When the wound was healed, M. Velpeau advised the parents to bring the child to M. Boissonneau, junior, so as to prevent an arrest of development by the intervention of prothesis, as the orbital cavity was sufficiently large to receive an artificial shell. As the tumour

engaged the lower portion of the orbit, the operator had to remove a very large portion of the conjunctiva, so that the inferior sinus in which the shell should rest was rather deep. Notwithstanding this circumstance, M. Boissonneau, junior, was able to construct an eye of average size; when this was achieved the child was conducted to M. Velpeau.

Since that time, M.—who is now a man—has worn an artificial eye; and, although his parents frequently neglected to replace his shell when worn out, he has never suffered any inconvenience, with the exception of a slight irritation, which the substitution of a new shell was sufficient to remove completely.

*Cancer of the Eye; Extirpation of the Eyeball; Absence of the Sinus of the Conjunctiva; Peculiar Position of the Prothetic Piece.*

M. S., the son of a German physician, when 24 years of age had his eye extirpated on account of a cancerous degeneration of the globe. As the young man was a student of medicine at Bonn, he was operated on by the Professor of Surgery at that University. It appears that in this case the method by enucleation could not have been put in practice, as the cavity resulting was of a very irregular form. The upper eyelid only was free; the lower was adherent throughout its entire extent to the fibrous structures which filled the cavity of the orbit. This circumstance prevented the eyelids from closing, which exposed the cavity of the orbit, permitting the red tissues which lined it to be seen.

M. S. recovered rapidly; but a shocking deformity remained, which he endeavoured to conceal with a bandage. M. S., being a young man, he not only wished, but it was necessary for him to follow his pursuits; he also wished to compete for a position which, at a later period, he obtained. For these reasons he determined to try what prothesis could do for him.

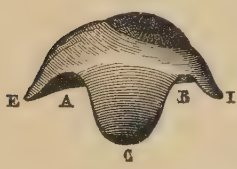
Unhappily he was wrongly informed, and visited all the principal cities of Germany in search of an artist which did not exist. He found many collections of artificial eyes, ready made, from which he sought to adapt one to his own case; but in such a case success was impossible; for, on account of the absence of the inferior sinus, none of the shells could be retained in position. One oculist tried to detach the lower lid from its attachments by repeated operations, but with effect of rendering the condition of the parts worse and worse. The number of cicatrices was augmented, and the attempts

to unite the eyelids only aggravated the deformity. Although much discouraged, M. S. decided, in February, 1855, to go to Paris; before doing so he consulted M. Sichel, who saw no hope but in prothesis, and sent him to M. Boissonneau.

M. S. went, accompanied by his father, to this oculist, who found the following conditions:—The cavity was of average dimensions; but the sides were lined by numerous cicatricial bands. The inferior eyelid was adherent throughout its entire extent. Two firm bands—one occupying each angle—formed two well-marked protrusions. The upper eyelid was free, but the cicatrices to which it was attached prevented its being completely lowered. The red surface of the cavity was quite exposed.

From the first trial, M. Boissonneau saw that he would have to contend with innumerable obstacles. In fact, the shell, having no support, fell at the slightest motion. As soon as he succeeded in fixing it firmly, the contractions of the orbicularis threw it out. When the upper eyelid contracted, the shell was drawn inwards and turned so that its concave surface was turned outwards. This difficulty was the most troublesome to overcome. M. Sichel, who was present at these trials, suggested to M. Boissonneau to place a pledget of lint in the cavity of the orbit—this device almost succeeded. But the lint had the effect of exciting some irritation, and increasing the secretion of the membrane, whereas the enamel has not this inconvenience; on the contrary, when substituted for the lint, the membrane loses its redness, the secretion diminishes, and rapidly disappears. He then tried to afford to this patient the advantages which he had before observed when he had employed the enamel alone. At last, after a month had been spent in experiments, M. Boissonneau constructed the model which is represented in Fig. 13. In this drawing the inferior edge of the shell is shown.

Fig. 13.




This shell answered every purpose that could have been desired in such a case. M. S. could make every motion without fear of seeing his eye falling out. The artificial eye could be moved from side to side, but not up and down. When looking straight forward the two eyes are quite parallel. The shell restored the palpebral opening to its normal form and size.

The patient wore this shell from the time he rose in the morning until he went to rest at night, without the slightest inconvenience.

The structures did not present the least signs of irritation. The secretion and flow of tears returned to their normal condition without being mixed with muco-pus.

Seven years have now passed since these results were obtained. His father states that there has been no change since his visit to Paris. He had not even the trouble of calling on M. Boissonneau; when he required a new shell he had only to write for it.

*Melanotic Cancer; Extirpation of the Eye and Muscles; Unusual Position of the Enamel Shell.*

Abbé P., 50 years of age, was sent, in 1856, to M. Boissonneau, by M. Deprès, *Chirurgien-en-Chef* to the Hospital of Bicêtre, who had extirpated the right eye. The extent of the disease had compelled the surgeon to remove the eyeball, the muscles as well as the fatty cellular tissue of the orbit. Contrary to the usual course, the cavity retained its full dimensions and did not fill up with fibrous growths, as is usual after extirpation of the eyeball. A soft bed of cicatricial tissue covered the bone. The abbé was a very distinguished literary man, and a diligent student; his health was being very much enfeebled by his labours and had lost all its vigour. After a time the eyelids sank into the cavity. The deformity was so great that, notwithstanding the simplicity of his manners, this ecclesiastic desired to have it remedied.

When M. Boissonneau saw the patient, the cavity presented the following appearances:—It presented in its antero-posterior diameter the form of a cone, of which the base was in front. It was necessary to have recourse to means other than those usually resorted to. The form of the shells generally in use—more or less hemispherical and concave—was insufficient. It was lost in the depth of the cavity. It was necessary to find a point of contact much further back than usual. M. Boissonneau constructed a shell, cylindro-conical from before backwards. The summit of the cone, supported on the bottom of the cavity, measured almost half a centimètre in circumference; but prudence required that the point of support should not be limited to the bottom of the cavity, but that the pressure should be distributed over as large a surface as possible, so as to afford the eyelids sufficient support to keep them in position, without, however, giving rise to any irritation of the tissues which lined the orbit.

Fig. 14.

For this purpose, and also to give the anterior portion of the shell the form of the healthy eye, the two parts corresponding to the two angles (E and I) were elongated, so as to be supported by each of these angles. Moreover, all the inferior surface of the shell was hollowed out, so as to press lightly on the posterior surface of the lower eyelid. Thus, the points of contact were as much disseminated as possible.

The shell being light, maintained a parallel position with regard to the other eye without causing fatigue. The natural conformation of the Abbé P.'s eyes being deeply set, rendered the absence of motion less remarkable. Thus, the deformity was completely concealed.

This venerable ecclesiastic did not long enjoy the advantages of prothesis, for six months after the operation he died, as is frequently the case, from a secondary melanosis of the liver. But a fortnight before his death he wore his shell, which, notwithstanding its length and unusual form, never excited the least irritation in the orbital cavity.

We believe that we may insist on the value of these observations; for Mackenzie, in his excellent treatise on Ophthalmology, says:— "After the extirpation of the eye, it is rarely that an artificial eye can be made use of." Yes, that is often true; especially when one endeavours to employ a ready-made eye. It also often happens that a clever artist often succeeds in surmounting the obstacles by knowing how to construct the shells to suit the deformity of the palpebral cavity. We have chosen those forms constructed by M. Boissonneau, which differ most from those in general use, in order to show to what a degree of perfection ocular prothesis has arrived. These results will henceforth prevent surgeons making experimental operations, such as those of Dieffenbach, who, after extirpation of the eye, thought he could fill up a part of the orbit with a portion of the skin taken from the temple.

In this case, as in those in which cicatricial bands exist—we do not fear to repeat—the work of restoration must be entirely given up to the cleverness of the artists who make the artificial eyes.

We have, moreover, chosen our examples from cases in which the shells have been worn for many years, so as to prove to surgeons the harmlessness of the intervention of prothesis in these cases. Our dear master, M. Velpeau, in communicating, amongst other facts of his practice those which we have given above, told us that he did not believe there was a single surgeon in France who would

hesitate to employ an artificial shell in these cases. This precept is not yet so general as he thought, for we read in a note to the last translation of the work of Mackenzie:—"Is it prudent to wear an artificial eye after the eye has been extirpated on account of scirrhus, fungus, and melanosis? Without proscribing absolutely in such cases the use of the artificial shell, we say that it should be removed before the least irritation is excited. Patients who have escaped such formidable affections should be content to live with closed eyelids.

Clinical experience shows that, in such cases, there is no danger connected with the use of the artificial eye. The restoration is not less complete, when the artificial shells do not wound the patient, than it is when the organ has been destroyed by a traumatic injury.

Prothesis is difficult ; but as its use is harmless, the practitioner should not doubt the benefit of artificial shells in these cases.

### ON OCULAR PROTHESIS IN CASES OF DIVISION OF THE EYELIDS, OR COLOBOMA.

Wounds of the eyelids, when they have been deep enough to attack and destroy the globe of the eye, often leave behind them a division of these membranous veils. The edges of the wound, badly closed, heal separately, and there remains between them a space, something in the form of a V, to which has been given the name of *coloboma*.

The operation required to counteract this deformity is most simple. It is only necessary to vivify the edges of the flaps; and, after having carefully brought them together, to keep them so, with the help of sutures, until their reunion is complete. But, should we seek, in every case, to re-establish the cohesion of the eyelids? and may we not, by so doing, interfere with the successful intervention of prothesis?

When the wound is in the upper eyelid, the veil of which is rather extensive, it happens most frequently that the bottom of the conjunctival sinus has not been reached, so that the two edges of the wound are free from adhesions; then surgery intervenes with success, and we have already published a case, from the practice of Professor Roux, of recovery from coloboma, after which an artificial eye had been adapted.

It is not the same when the solution of continuity exists in the lower eyelid. Here, almost always, the wound extends to the

conjunctival sinus, to its greatest depth; and one of the lips of the wound always contracts, in these cases, an adhesion with the globe of the eye. Here the restoration of the eyelid must be prejudicial to the adoption of an artificial eye; so that the best way is not to interfere with the coloboma.

The following is an example of one of the means of prothesis to counteract this deformity.

*Wounds affecting both the Lower Eyelid and the Globe; Adhesion of one of the Lips of the Wound to the Ocular Stump; Coloboma; Arrangement of the Shell so as to prevent the necessity for Blepharoplasty.*

General X. received, in Africa, a blow of a yataghan, which divided the lower eyelid of his right eye, penetrated the globe, and made a large incision in his cheek. This wound, dressed on the battle field, did not receive the same careful attention which it might have done under other circumstances. The loss of the eye caused the surgeons to allow the wound of the cheek and that of the eyelid to unite spontaneously. Cicatrization took place by the second intention, and left a coloboma in the lower eyelid, and an adhesion between the ocular stump and the external lip of the fissure.

The general, continuing on active service, could not wear a bandage, and procured an artificial eye. Unfortunately the shells first used were badly adapted to the conformation of his orbital cavity; they injured the conjunctival sinus in several places. The depth of the sinus was soon diminished by granulations, principally towards the temporal region; the adhesions also, irritated unceasingly, were greatly thickened. All this induced him to change his oculist. When the general came to M. Boissonneau the solution of continuity which existed in the lower eyelid was in the form of a triangle, the base of which, turned towards the ciliary border, measured about four milimètres in breadth and the conjunctiva, which was of a bright red colour, was exposed. Moreover, the conjunctival sinus had only a depth of three milimètres, and the eyelid adhered to the globe, as we have said, by a very thick band.

Fig. 15.

As Fig. 15 represents it, the new shell adapted by M. Boissonneau shows, on its lower edge, a slope, A, so as not to press the adhesion, or interfere with the movements of the piece. Then, at the side of this slope, and also on the lower border of the sclerotic,

which allowed the opening produced by the coloboma to be seen, this artist gave the enamel a flesh tint, to match the skin of the eyelid, in order to hide the bad effect produced by the white colour of the artificial eyes formerly used by the general.

This tint, A B, given to the lower edge of the shell, did not replace the loss of substance in the eyelid, but it rendered the deformity less apparent, as, at the distance of a few steps, the loss of the palpebral veil was not perceptible.

It will be remarked, perhaps, that the external part of the piece, E, is very narrow. This form was necessitated by the want of depth in the lower and upper conjunctival sinuses, resulting from the presence of the granulations of which we have spoken above.

### OF PROTHESIS IN CASES OF LOSS OF SUBSTANCE OF ONE OF THE EYELIDS.

Cases in which wounds or disease destroy a portion of one of the eyelids, and, at the same time, the globe of the eye present such great difficulties that we know of no attempt at restoration by prothesis.

In spite of the great progress accomplished by restorative surgery, we can no longer think of attempting a useful blepharoplasty. At present (whatever may be said to the contrary) we may repeat, with Celsus:—"Si palpebra tota deest, nulla id curatio restituere potest." When the skin of the eyelid only is wanting, it can be replaced by the neighbouring skin; but the eyelid is not composed of skin alone—it has a cartilage, eyelashes, and muscles, so that when the entire thickness of the membranous veil is wanting there is no organic restoration possible. Besides, the new tegument could not present the most striking character of the organ—its mobility. It is even doubtful if, after the attempted restoration, an artificial eye could be adapted. In short, for so small a result, no surgeon would think of attempting blepharoplasty.

This reminds us to notice a very ingenious attempt at prothetic restoration, in the case of a young officer in the Crimean army:—

*Destruction of the Globe of the Eye and of the Two Outer Thirds of the Superior Eyelid, by a Gunshot Wound; Application of an Artificial Eye in Enamel, supporting an Eyelid in Wax.*

M. B., sub-lieutenant in an infantry regiment at the time of the assault on the Malakoff Tower (Crimea), was struck by a projectile, which wounded the right eye, and carried away two-thirds of the

upper eyelid. Intense ophthalmia, followed by sloughing of the cornea, was the consequence of this wound. When this young officer returned to France he consulted a clever surgeon, M. Guépin, of Nantes, who, judging autoplasty impossible, sent him to M. Boissonneau, junior, to have his deformity remedied by the aid of a prothetic piece. The parts presented the following appearance:—The atrophied globe of the eye retained about five-sixths of its normal size; its form was regularly rounded; the cicatrix of the cornea very small. These lesions were complicated by a loss of the substance of the upper eyelid, about two-thirds of the outer part being gone. About three milimètres remained intact at the external commissure; the remaining portion, at the inner angle, was something less than one centimètre. The mutilation measured about 20 milimètres in length. Fig. 16 represents the form of this lesion, and the dimensions of the substance lost.

Fig. 16.

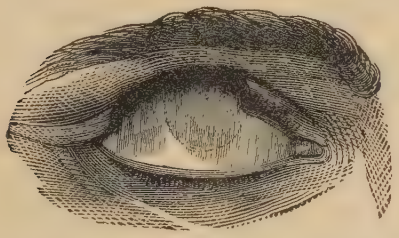
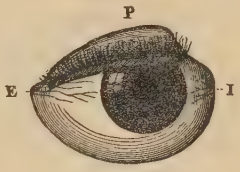


Fig. 17.




One can easily imagine the unpleasant appearance of the eye—a large white globe moving in its orbit, greatly exposed by the loss of substance in the upper eyelid, as well as the large red cicatrix which it presented. M. B. wore a bandage, not only to hide this deformity, but also to protect the globe of the eye from the action of the air and to protect it from dust. The use of this bandage detracted greatly from the appearance of a young officer of 22 years of age. Moreover, M. B. was anxious to pursue a career so brilliantly begun, as already he was decorated with the military medal, the cross of the Legion of Honour, and that of Mitidjé. So many motives were scarcely wanting to incite the zeal of M. Boissonneau, junior, who occupied himself, at first, with the prothesis of the eye, on the success of which depended greatly what could be attempted for the artificial restoration of the eyelid.

The tolerance of the stump of the eye was not doubtful; the lower eyelid offered a sufficient support for the enamel shell; it remained to utilize the flaps of the upper eyelid to maintain the

piece securely in its position, which was the more necessary as the extreme mobility of the ocular stump allowed of the artificial eye having a great range of motion; and, fortunately, the internal flap was extensive enough to support the corresponding part of the artificial eye, while the preservation of the external commissure sufficed to retain its opposite extremity. The general aspect of the eye, its size, the colour of its various parts, and even the direction of its axis, were all obtained without much difficulty; but the deformity was far from having disappeared. The large notch in the upper eyelid allowed a great extent of the upper part of the shell to be seen, so that the white of the enamel, representing the sclerotic, and the bright red of the palpebral cicatrix, made it most desirable that they should be concealed, by adapting to the upper part of the shell a portion of artificial eyelid, which might replace the lost substance of this veil.

Many methods presented themselves. The one most likely to attract M. Boissonneau was that of modelling the eyelid in enamel. He had all the materials at hand; and it is always an advantage when the same artist can execute the different parts of a piece; but all the attempts which he had seen made by his father proved to him the insufficiency of this material for the restoration of cutaneous tissue, for the appearance of enamel is always brilliant, whilst the skin is dull; and in this way the imitation is, therefore, clumsy. Then, the impossibility of placing lashes in the eyelid adds to its imperfection; and, in using it, it is open to the objection of making the pieces too heavy and too fragile; and, as a last consideration, but by no means the least important, the difficulty in executing the pieces makes their price very high. Our oculist decided on making an enamel piece, merely to serve as a model, and then began to study the different materials proposed for the construction of artificial eyelids—principally wax and gutta percha. This last has the advantage of being very durable and easily coloured; but it is more difficult to model than wax, and, besides, it is not so good an imitation of the skin. Wax, on account of its semi-transparency, was, therefore, the material to be chosen in this case.

The choice made, M. Boissonneau brought the piece, complete, which he had constructed in enamel, to M. Talrich, wax modeller to the Faculty of Medicine, and got him to attach to an artificial eye, arranged for the purpose, a portion of eyelid of the size of the piece lost, and corresponding with the two remaining flaps, P, Fig. 17. Thus restored, this eyelid had not only the

same form, the same aspect, the same colour as the healthy eyelid, but also the lashes, suitably arranged, formed, with those which remained, an irreproachable line. All the upper portion of the wax eyelid fitted so well into the folds of the natural eyelid that the joining of the artificial piece with the healthy parts was scarcely perceptible at the extremities. Finally, M. Boissonneau had given to the edge of the piece destined to receive the wax an appropriate form, so arranged that only the polished surface of the enamel should come in contact with the mucus. By this arrangement the use of the piece caused no inconvenience, and its lightness made it as easily borne as an ordinary artificial eye. These details, which we have not feared to enter into, prove that, in this case, the work of prothesis left nothing to desire. Great was the surprise of all who knew M. B., and especially of the surgeons who had been consulted, when they witnessed the happy results arrived at by M. Boissonneau.

Before quitting Paris, this young officer not only took with him several artificial eyes, which were all provided with their wax eyelid, but he took some lessons from M. Talrich, which enables him to model his own artificial eyelid. Each week he devotes about a quarter of an hour to the repairing of these pieces; and, thanks to the aid of prothesis, he has been enabled to remain on active service.

### ON PROTHESIS FOLLOWING EXTIRPATION OF THE EYELID, AND OF THE GLOBE OF THE EYE.

Does the progress of industrial arts at present allow of our oculists practising restorations which were interdicted to their predecessors? This is a question which we are induced to ask ourselves, on seeing them undertake to remedy the deformity produced by the extirpation of the eyelids, and the globe of the eye.

In the sketch which we have given of the history of artificial eyes, we have recalled all that has been done from the remotest antiquity until now, in the construction of *ecblepharos*. In spite of the results furnished by prothesis, scarcely 30 years ago we did not hesitate to pronounce that art had limits which the most ingenious proccedings could not overcome. But those who have been mutilated will not accept these decrees of science, and urge artists to renew their attempts, in the hope that they can even triumph over impossibilities. It is of an attempt of this kind that it remains for us to give the results; but in this case the incitement came from the surgeon.

*Cancroid of the Eyelid Destroying the Globe of the Eye; Extirpation of the Affected Parts; Application of an Ecblepharos.*

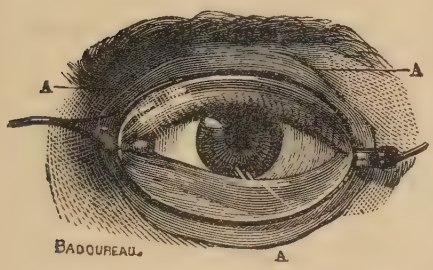
In July, 1856, a women, about 30 years of age, was admitted to the *Hospital de la Pitié*, to be treated for an ulceration which had destroyed the eyelids and the globe of the left eye. But one resource remained to overcome this misfortune, that of removing all the parts attacked by the cancroid affection. M. Maisonneuve proposed this operation to the patient; but she rejected it on account of the deformity which would result from it, and which would prevent her from continuing the exercise of her profession. M. Maisonneuve only succeeded in overcoming her resistance by promising to have a prothetic piece constructed for her which would conceal the deformity. The operation was performed; and when the cicatrization of the parts was complete, the surgeon sent for M. Boissonneau, junior, and begged him to undertake the realization of the promise which he had made to the patient.

The globe of the eye and all the surrounding tissues, as well as the two eyelids—in a space limited by the bony edge of the orbital cavity—had been removed, so that this cavity was gaping, and gave the physiognomy of this woman a most repelling aspect. In this case prothesis of the globe would not suffice; it was necessary to replace the eyelids, maintain the piece in a suitable situation, and in so solid a manner that the patient could continue her work without fear of its falling, and without experiencing any inconvenience from it. M. Boissonneau proposed to M. Maisonneuve to replace all the palpebral region, by the aid of a light metal plate (aluminum or silver), which would be hammered out, *repoussé*, to its proper form, and which would be covered by a coat of flesh-coloured paint; an artificial eye, of suitable form, would be fixed between the two metallic eyelids. Two means existed of fixing the piece in its place —either to fasten it to a pair of spectacles, or to adapt a spring to it, which would embrace the back of the head. This apparatus appearing to contain the elements of success, M. Maisonneuve engaged M. Boissonneau to execute it. Having taken a cast of the region, M. Boissonneau consulted with M. Charrière, who undertook to construct the metallic part of the piece, whilst he occupied himself with the ocular enamel shell. The exterior contour of the metallic plate should follow all the sinuosities of the orbital region, cover it up entirely, and find its support on the healthy parts. This piece finished and tried, M. Boissonneau adapted to the palpebral

opening—arranged in the piece—an enamel eye, of the same colour and convexity as the healthy one. This artificial shell was fastened behind the eyelids by a flange, *sertissure*—that is to say, in the same manner as jewellers fasten the stones in the collet of a ring. A painter was then employed to give to the metallic eyelids a colouring, the shade of which would harmonize with the surrounding parts.[a]

It now remained to fix this piece securely on the part it was destined to conceal. M. Charrière was of the opinion first given by M. Boissonneau, that it would be best to support it by spectacles, the rim of which would serve better to conceal the contour of the plates. Fig. 18 represents this model; but the patient, through an exaggerated feeling of coquetry, rejected the use of spectacles, and requested the employment of a steel spring, which was fastened to the external edge of the metallic plate, and also at the back of the head. The apparatus fixed, the patient arranged her hair in bands, so as to cover the spring, which was thus completely hidden. Patient and assistants were in the greatest admiration of the result obtained by M. Boissonneau; but we, who are more familiar with the marvels of prothesis, are more difficult to satisfy. What, besides, has happened in this case? Five years have passed, and neither M. Maisonneuve nor M. Boissonneau have again seen the patient. Is it not to be supposed that she has renounced the use of the piece and reverted to that of the classical bandage?

Fig. 18.




Clever artists, to whom ocular prothesis is confided, should never forget that the most striking characteristic of the organ which it is their care to restore is its mobility; and that when they cannot impart this character to their artificial pieces, they should abstain from making them; for they only transform the existing deformity into another, which, though perhaps less shocking, attracts quite as much attention. The patients are not always—and especially at first—conscious of it; for instance, in a case of ecblepharos, when the piece is well made—as in that of which we have just shown the

[a] A cast of wax adds to the illusion; but as it lasts a much shorter time, its use would only suit for the wealthy.

plate—the patients, in looking at themselves in a glass, have reason to be satisfied with the restoration which they have undergone. Both eyes being parallel, and the degree of opening between the eyelids identical, the deformity disappears completely during the act; but, for the spectators, it is different. That eye, always fixed and motionless, has the most painful aspect; and we are not astonished that the construction of these pieces is a rare fact in ocular prothesis. If we had the direction of a similar attempt, we should prefer having the eyelid half closed; for the appearance of paralysis of the upper eyelid would be less unpleasant—less shocking, in our eyes, at least, than that motionless, widely-opened eye.

We shall sum up these remarks by saying, that the great progress accomplished by ocular prothesis, within the last 25 years, consists less in the employment of new materials for the construction of artificial eyes—as some oculists would have us believe—than in a more attentive study by these artists of the modifications undergone by the oculo-palpebral cavity after the destruction of the globe of the eye.

This study has enabled them more perfectly to adapt artificial eyes, so that, thanks to the notching of the edge of these pieces to adapt them to the surface of adhesions and cicatricial bands, they have succeeded in preserving a great portion of the movements which the ocular stump imparts to them.

To this disposition of modern pieces may be added the not less ingenious one, which consists in one of the edges of the enamel shell being prolonged, so that it can find a support behind the cicatricial folds, at the same time as on the margin of the orbital cavity, as we have shown examples of.

But of all these improvements, the most remarkable and the least remarked (for one must have experienced difficulties in order to appreciate them) is the adaptation of artificial eyes to very large ocular stumps, or where the cornea has not been destroyed. Here the shells must present a peculiar conformation. The depth of the piece is limited, for its prominence between the eyelids must not be greater than in the healthy eye; therefore it is necessary to have recourse to another artifice to prevent all contact between the cornea and the back of the enamel shell. The following is the manner in which some oculists (and they are not numerous) have surmounted this difficulty:—

In ordinary prothetic pieces, as in the human eye, the layer of

enamel which represents the iris is situated, vertically, three or four milimètres behind the most projecting point of the curve formed by the transparent cornea, so that the antero-posterior diameter of the artificial shell is diminished to the extent of the anterior chamber of the eye. The degree of atrophy which the globe of the eye undergoes in most cases where its function is abolished by a wound, allows the conformation of the normal eye to be followed in the enamel shell; but when the globe of the eye remains voluminous, or there exists a staphyloma of the iris or cornea, this mode of construction is no longer possible. The oculist ought to arrange so that the layer of enamel which represents the iris, in place of being vertical, should be curved, as in cases where, in the normal eye, this membranous disk is pushed forward by the increased volume of the crystalline. In this manner the depth of the enamel shell is increased to the extent of the projection of the interior chamber; and, if the artist has taken care, at the same time, to give to his piece all the amplitude possible, without its resulting in giving it the appearance, when placed under the eyelids, of an exophthalmia, he succeeds in concealing a deformity which, scarcely 20 years ago, was considered irremediable. The case of the lady who remained for eight years confined to her room is an example of this.

In our demonstrations we have preferred facts to assertions; for, as an ancient philosopher has remarked, a fact is a reason plus a proof—*un fait est un raisonnement plus une preuve.*

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Art. VI.—*Observations on the Endemic Diseases of British Honduras.* A Thesis, read for the degree of Doctor of Medicine in the University of Dublin, February 16th, 1863. By J. B. Hamilton, A.B., M.D., M.R.C.S.E., Staff Assistant-Surgeon.

I purpose referring, briefly, to those diseases which may be properly called endemic, and, to a certain extent, peculiar to British Honduras; and, for this purpose, shall divide them, as usual, into Medical and Surgical—the former being, for the most part, the result of miasmata, and the latter, of the reptile and insect pests which render the habitation of Europeans in this climate so dangerous and unpleasant.

Of the former, the most important, by far, are those commonly called miasmatic, or, as their name implies, those induced by the

action of a certain subtle poisonous miasm or malaria; and, as a clear and simple proof of this, I may state that, during the year 1861, out of 283 admissions into the Military Hospital, no less than 139 were for fever of a remittent or intermittent type; and that of the deaths, which were only six in number, four were the result of fever, while one was accidental, and the other from delirium tremens.

A curious fact, and one not easy to explain, in connexion with this malarious influence is, that yellow fever is extremely rare; though hardly a year passes without an epidemic on the same coast, either to the north or south, and frequently both, within a few hundred miles. Remarking on the last epidemic of yellow fever, which took place in 1860, the principal medical officer in charge (Mr. Thornton) states:—"It was exceptional, being the only epidemic that had visited Belize (the chief town) for upwards of 13 years; but this year's epidemic appears to have extended over the whole of Central America, as various cities, north and south of the Honduras settlement, had suffered by one of those waves of the kind which pass over these countries, and it here found a sufficient *nidus*, as it were, in the extensive lagoons and rank vegetation to harbour itself, and spread devastation among the white population, far and near."

I shall now endeavour to explain the causes of these miasmatic diseases, as far, at least, as they are ascertained and understood.

In the first place, it may be laid down as a rule that these malarious fevers are always, to a certain extent, epidemic as well as endemic—that is, they rage at certain periods with tenfold intensity, though, owing to the swampy condition of the country at all times, they are never wholly absent. This period, which is well known there as the "fever season," is generally about the months of August, September, and October; and, to make the reason of this clear, it will be necessary to explain the different phenomena observed at different periods of the year.

The whole line of coast, for many miles inland, consists of alluvial soil and decomposed rank vegetation, and this is especially the case in and about the city of Belize, situated, as it is, on the "Delta" of the Belize River, which is entirely composed of alluvial deposits. As soon, therefore, as the rainy season comes on, which is generally about the month of April, the entire surface of the land becomes flooded, and continues in this state till the beginning of August, when the short, or, as the Creoles call it, the "maugre dry," sets in, with intense heat from the sun, the rays of which, falling perpen-

dicularly on the swamp, soon dry up the surface moisture, and, striking the alluvial soil beneath, engender miasmata to a fearful extent, to the great injury of the white, and, in a lesser degree, of the health of the black population. This having continued for two or three months, the rains again fall, to the general benefit, and continue to do so till January; and when they now cease the long dry sets in, and with it the sea breeze, which, with its invigorating breath keeps continually sweeping the malaria away; and, as almost the entire population reside on the extreme edge of the coast, it stands to reason that the effects of a sea breeze must be most beneficial.

Another great cause of these fevers occurring in the autumn is the prevalence of the *land-winds*, which, blowing from a nor-westerly direction, sweep the miasmata from the swamp right into the town and barracks. This land-wind is also of a most peculiarly chilly character, so much so that at 8, a.m., it is often bitterly cold, with the thermometer standing at 60°; then, about 10½, a.m., the wind falls, and during the greater portion of the day a dead calm prevails, when the average heat in the shade is about 91° to 93°, without a breath of air to temper the burning heat of the sun, which constantly, during these months, is at the enormous temperature of 130°.

This great alternation between heat and cold is, of course, most prejudicial to the European constitution, and predisposes the body to the influence of the malaria; indeed, at this season it may be laid down as a rule that all Europeans are attacked, to a greater or less degree, in proportion to their acclimatization—those who have been longest resident generally suffering less than new-comers. Indeed, during the autumn of '62, I am not aware that a single white man in the place escaped without an attack of some sort or another, which could be distinctly traced to malarious influence; and in the military hospital the admissions among the troops (black) rose two or three hundred per cent., nearly all the cases being fever of an intermittent type.

Of the fevers themselves there is often the greatest difficulty in diagnosing the exact type; for what will one day present the characteristics of a tertian, will, in a few days, present those of a quotidian; then, perhaps, will suddenly become remittent, and often almost continued in its type. A peculiarity, very often observable, is the total absence of the cold stage, or else it will be so short as hardly to be recognized. Other variations are often met; and one of the commonest, and one which I have myself observed, is the absence

of perspiration, or, in fact, a want of the third stage. When this occurs there is often great enlargement of the spleen, which sometimes, in old cases, takes place to an immense extent; and in one or two rare instances I have observed it so large as to fill up almost the entire abdomen with one solid mass, often accompanied with anasarca. In more acute cases it is curious to observe the sudden enlargement, and equally sudden decrease, in the size of the spleen, according as the patient is or is not suffering from fever. The debility following these cases is most troublesome, and generally requires a total change of air and scene for recovery.

Another form of fever, and a not uncommon one, goes by the descriptive name of the *broken-bone fever*, so called from the patient having the unpleasant sensation of feeling as if all the shafts of the long bones were being gradually broken across. The other symptoms are generally of a remittent type, though sometimes it occurs in distinct cases of intermittent.

A very remarkable fact, and one difficult of explanation, is, that different persons get attacks of fever with the prevalence of different winds, though, as I have already stated, by far the most frequent time for fever is when the land winds are prevalent; yet I have known instances myself of persons being attacked during the prevalence of the sea breeze, and who expected it regularly at that time.

I shall now touch briefly on the general treatment of these malarious fevers.

In the first outset it is of the most paramount importance that the intestinal tract should be unloaded, for which purpose a full dose of the sulphate of magnesia is, perhaps, the most efficient; but if there is much irritability of stomach, a dose of the pil. hyd., from 5 to 10 grains, or calomel 10 grains, will generally have the desired effect. This should then be followed by quinine, in doses of from 5 to 10 grains, in combination with drachm doses of the sulphate of magnesia, to be continued or not as the state of the bowels indicates. I have found that quinine, in some cases, can only be retained when given in the form of a pill, which is easily formed by triturating the quinine well first, and then adding gum water; in this way pills may be made to contain five grains and not be very inconvenient in size.

If the irritability of stomach continue, the simplest and most pleasant remedy is very acid lemonade, which I have often found retained on the stomach when everything else had been rejected. Should there be much tendency to insomnia, a full dose of opium,

combined with hyosciamus, at bed-time, will have the desired effect; indeed an opiate in the outset of a paroxysm will often be of greatest use, cutting short the cold stage, and inducing perspiration. It is extraordinary what an immense quantity of quinine can be taken in these malarious fevers without "cinchonism" being induced; and in one case of severe remittent I administered the enormous quantity of 420 grains in 10 days, without affecting the hearing of the patient; indeed he seemed quinine-proof. The only explanation I can give of this fact is, that the more virulent the miasm in the same proportion can larger doses of quinine be given.

I cannot finish this subject without paying a justly-merited tribute to the memory of those medical officers who fell victims to the yellow fever on this coast, during the year 1860, and will, for this purpose, quote the words of the Official Report for 1860:—"During part of the year yellow fever prevailed to a great extent among the civil population of Honduras, but does not appear to have affected the soldiers, no case having been recorded among the white, and only one, which, however, proved fatal, among the black troops. The officers were not so fortunate, one lieutenant and three assistant-surgeons having fallen victims to the disease (Drs. Carberry, Baggot, and Harris). The former died at Belize, two of the latter at Corosal (an outpost), and the other at Ruatan. In consequence of there being no qualified medical practitioners at Corosal, the medical officers gave their professional services to the civil population as well as the military; and, their strength being over-tasked by the amount of professional labour thus devolving upon them, they sank rapidly when attacked by the disease."

I will here briefly mention the treatment adopted by the Spaniards in yellow fever; and, although empirical in its nature, there are so many well-attested cases of recovery, even when given up by the regular practitioners, that it is certainly worthy of note. It is simply a mixture containing about an ounce of castor oil, half an ounce of lime or lemon juice, and half an ounce of common salt, for each dose. I regret that I am unable to state more about it; but, from enquiries made by myself at Corosal, I am satisfied that it *did* effect cures, even in cases where black vomit had set in, and when the patient had been given over after the usual treatment of calomel and quinine.

The other medical diseases are those very commonly met with in the other West India settlements, modified, of course, by climate and season. Exanthemata are rare; but when an epidemic does broke out, it rages with fearful violence among the black population,

who seem to succumb to disease much more readily than Europeans; indeed, when attacked, during an epidemic of cholera, they seem at once to lose all hope, and seldom recover.

I shall now tersely describe those diseases which come under the head of surgical, and which, as I stated previously, are "the result of those reptile and insect pests which render the habitations of Europeans in those climates so dangerous and unpleasant." By far the most important of these are snake-bites; and so wild and uncultivated is the entire face of the country that they are of very frequent occurrence. The poisonous snakes of Honduras are, first, the crotalus or rattlesnake, the tamagass or tomagoff, and the coral or barber's pole. The former is well known, therefore I shall not mention it further than to state that deaths from its bite are rare, probably on account of the provision of nature, that, on being alarmed or angry, it gives notice of its presence by making a peculiar noise, like a child's rattle, and which, in the "awful silence" of those woods, can be heard to a considerable distance. The tamagass or tomagoff (specimens of which may be seen in the Dublin College of Surgeons) is by far the most frequent cause of death, because its general place of abode is among piles of dead leaves, where it lies coiled up, and is, therefore, apt to be trod on. Its bite is very fatal, death having been known to take place in 20 minutes; but, by a wonderful provision of nature, the antidote is always at hand, in a peculiar kind of vine, known by the name of "guacho," the juice of which is applied to the part and also swallowed, when an immediate remission of the symptoms takes place, of which coma is the most important. The bite of this snake has the peculiar property of generating a kind of purpura in the blood, as, even in slight cases and those which recover, there is generally extensive hemorrhage from all the *mucous* surfaces. Might not this "guacho" be tried, in the form of a tincture, in other countries—in India, for instance—where the bite of the cobra di capello is so frequently fatal? The coral or barber's pole is not by any means so fatal a snake as the tamagass, and there are few cases of death from its bite; but still children, or persons in a delicate state of health, would be very likely to succumb. Great numbers of scorpions and centipedes are met with, their sting causing great inflammation and fever for a few days. The Creole treatment consists of rubbing in a tincture of the reptiles themselves, for which purpose they put those they catch into spirits; but I should think that the efficacy consists solely in the spirit, which cools the part and allays inflammation.

The insect life is productive of many annoyances to man, many people suffering to a frightful extent from the bites of mosquitoes, and their smaller, but not less irritating neighbours, the sand-flies. One very remarkable case I may mention, of a lady who got much bitten by the latter, and who, having scratched the bite, converted her hands, arms, and legs into a series of diminutive sores. It chanced that her child had been just vaccinated, and by some means or other she got inoculated from the pustule, when every one of her own sores took on a distinct vaccine appearance, and ran through a regular course, without, however, leaving any pit behind; she herself bore good marks on her arm of previous vaccination.

The beef-worm, which is, I believe, peculiar to tropical America, is a most unpleasant affection. It first appears as a boil on the leg or feet, and sometimes on the back; when, in a few days, a short thick grub emerges or is pulled out, white in colour and quite hard; the sore itself heals up in a few days. It is as yet unknown whence it comes, but is believed to be the larva of some fly. The jigger, or, as the Spaniards call it, "chico" (which is, literally, "small"), is known also by the correct name of *pulex irritans*. In appearance it resembles a small flea, and is generally found where pigs are kept. It buries itself in the skin, where it, for a few days, excites a most intense itching, by some thought to be pleasant, but *de gustibus non disputandum*. In a few days it gradually increases in size; and, if not removed, bursts, when thousands of small ones bury themselves in the surrounding skin, when, if neglected, dangerous and even fatal consequences may result; many negroes lose their toes through not attending to them in time, and, what is more easily removed, dirt. The treatment consists in removing them with some blunt instrument, whole, if possible; but should the bag, as it is called, be broken, then turpentine or tobacco ashes should be rubbed into the part.

In conclusion, I may mention the rarity of deformities among the black population, owing, I suppose, to the children being so constantly in the open air; indeed I do not recollect seeing a single case of curvature of the spine in Honduras, and only one of clubbed foot, which I operated on myself successfully. It is often very difficult to know, in treatment, the strength of the various drugs, many of which, though only but a short time from England, become perfectly inert. Extract of hyosciamus and belladonna, for example, when once exposed to the air, become useless.

As these few notes are altogether from personal observation, I can vouch for their correctness in every way.

Art. VII.—*On Patency of the Foramen Ovale, attended with Cyanosis, and a Faint Murmur Synchronous with the First Sound of the Heart.* By B. W. Foster, M.D., Assistant Physician to, and Demonstrator of Pathology in, the Queen's Hospital; Lecturer on Practical Anatomy in Queen's College, Birmingham.

Early in October last, when seeing my out-patients at the Queen's Hospital, my attention was attracted by two children—a boy and a girl, aged respectively three and two-third years and two years. These children at once forced themselves into observation by the blue duskiness of their faces, the purple colour of their lips, and their heavy, unintelligent expression. On closer examination they were found to be affected in different degrees. The boy, darker in colour, and more stupid in appearance, seemed to take no interest in surrounding objects; he was unable to walk, and had never made efforts at speech. The girl, on the other hand, paler in colour generally, but with equal blueness of the lips, evinced occasional interest in passing objects; and when irritated showed more decided signs of anger; she could walk a little, and sometimes made attempts to speak.

The surface in each was of a dull blue colour, much darker on the fingers and toes, which were, however, *well-formed*. The lips were of a dark purple hue, and the mucous membrane of the mouth equally discoloured. The pupils were dilated and sluggish, the conjunctivæ bluish, with the vessels of the sclerotic large, numerous, and purple. The skin was smooth and soft, but dry, and very cold, especially on the extremities. The tongues were clean, the appetite said to be good, thirst sometimes marked, the bowels usually slightly relaxed, but very much so at present. The stools generally very dark in colour. Micturition not frequent. Urine and feces very often passed in bed.

The thorax of the boy (Cornelius H.), on inspection, presented a remarkably rounded appearance at the upper part, towards the left side, causing his chest to look somewhat barrel-shaped. His breathing was laboured, and attended with very marked action of the diaphragm. Respirations 38 per minute. Resonance on percussion all over front of chest; slight dullness behind at the bases of the lungs. On auscultation, sibilant and mucous rales were heard pretty generally all over the front and back of chest, but more marked posteriorly. The heart's action, though quick, seemed regular; apex beating between fifth and sixth ribs. The area of

cardiac dulness was slightly increased towards the right side. On auscultation, a murmur was heard with the first sound, varying in intensity at different times, and in different positions of the patient. Heard loudest between third and fouth ribs of left side, at their junction with the sternum; most distinctly with the patient placed in the sitting posture, or leaning forwards. The sound was heard as high as the upper margin of the third rib, but was not heard at the apex. Second sound healthy. Pulse 96, weak and small.

The abdomen was found to be tympanitic. The liver was enlarged, could be felt half-an-inch to one inch below the ribs, and stretched across the epigastric region. No perceptible increase of splenic dulness.

In the little girl (Mary Ann H.) the chest was very fairly formed, with only a very slight increase of roundness in the upper part. The breathing, though much more laboured than natural, was easier than in the other case. Percussion sounds resonant all over the lungs, with the exception of the most posterior and inferior portions. Sibilant and mucous rales were heard over front and back of chest. There was no perceptible increase in cardiac dulness. On listening to the sounds of the heart, a faint murmur was heard with the latter part of the first sound, on a level with the lower edge of the third rib, at its junction with the sternum. This murmur varied in intensity, and occasionally gave rather the idea of a muffling of the first sound. It did not extend upwards, and was not to be heard at the apex. When the patient was placed on her left side, or leaning forwards, it was more distinct. The second sound was normal. Action of the heart regular; pulse, 110—small and weak. The abdomen was slightly distended with air. The area of hepatic dulness was increased, extending about one inch lower than natural, and considerably towards the left side. No enlargement of the spleen could be detected.

The mother informed me that the children were both much discoloured at birth; the cyanosis was then, however, more marked in the little girl. They are very liable to paroxysms of passion, during which they become much darker in colour, and their breathing more laboured. They have had occasionally attacks of palpitation and difficult breathing, unconnected with passion. During sleep they often have convulsive twitchings of the limbs. They generally have a cough, and expectorate watery mucus. They are always cold; and, although they have had no particular illness, they have always been low, weakly, and as bad as at present.

The mother's history I found to be as follows:—She was always healthy until a few months before marriage, when she had a bad attack of rheumatic fever; which, from her account, seems to have affected her heart; there is, however, at present no trace of disease in the heart, which I have examined carefully. She married, when 20 years old, her first cousin, then aged 19 years. He has been always healthy and steady. I found no trace of syphilis in his history, nor any signs of disease of the heart. During her first pregnancy she suffered much from palpitation and pain in her left side. She carried the child only eight months; on birth it presented marks of cyanosis, and lived only eight months. Her second pregnancy was attended by no cardiac symptoms, and the child, born healthy, is still alive and well. The third child was born with marked blueness of the lips and surface, after a gestation attended with pain in the side, &c. It lived 21 months. The fourth child was born healthy, and is still alive. No cardiac symptoms attended this pregnancy.

The fifth, sixth, and seventh children, at birth, all presented symptoms of marked cyanosis; and these pregnancies were all attended by the heart symptoms. The fifth child lived for six years, but never walked or talked. The blueness of his surface continued, and became more marked towards his end. The cases of the sixth and seventh children have just been related.

The children having been brought on account of the looseness of their bowels, were first treated for this by chalk mixture. This soon remedied it; and the bronchitic symptoms were relieved by a little expectorant mixture. I ordered them also such warm clothing as the mother could procure for them, with nourishing diet, &c. On their third visit I prescribed for them cod-liver oil, with the view (as laid down in books[a]) of increasing their animal heat. Accordingly I made observations of the temperature of different parts of their bodies, and found that, in the case of Cornelius H., the fingers were seldom more than 5° to 8°, the toes 1° to 3° higher than the temperature of the room in which he was placed. In the little girl, the fingers varied from 6° to 9°, the toes from 2° to 4° higher than the surrounding atmosphere. For instance, in a room heated to 58°, I found, from the average of three observations on different days, that the fingers were, in the boy—66°, the toes 61°; in the girl—the fingers 67°, the toes 62°. In the

[a] *Vide* Walshe on Diseases of Heart and Lungs.

mouth the temperature averaged—in the boy, 96°, and in the girl, 97½°. In the boy it once fell so low as 90°, while the lowest observation in the girl was 92°.

The treatment with cod-liver oil I found did not benefit the children by producing any marked increase of the temperature of the surface, which on one or two occasions rose 2° on an average in the boy, and 3° in the girl; but at other observations fell to its usual standard. I therefore determined to try another plan of treatment, and I ordered the children four-grain and three-grain doses respectively of the chlorate of potash. This drug I prescribed with the view of oxidizing the blood, by means of the oxygen set free by the decomposition of the salt. When I next saw them their colour was much improved, and their temperature had risen from 5° to 6°. I continued this treatment, giving drachm doses of cod-liver oil in addition, for some two or three weeks with marked benefit. At this period, however, I unfortunately lost sight of the children for some two months; and on their re-appearance I learned that they had been for some time in the workhouse, and had only just been discharged. The privations that the children had undergone previous to the time that they had entered the workhouse had materially weakened them; and even now the extreme poverty of the parents rendered the supply of the bare necessaries of life often precarious. In March I determined to try the effects of the new therapeutic agent, peroxide of hydrogen; but as I gave it at first in only small doses—viz., two minims to the younger and four to the elder, I found it not much improvement on the chlorate of potash. I have, however, since given it to the boy in eight-minim doses, three times a-day, with marked benefit. Under this treatment (although the disease has evidently progressed in some respects since he was first presented at the hospital, owing to the unfavourable hygienic conditions in which he has been placed) a marked improvement in his colour has occurred: his breathing has become less laboured, and the temperature has risen very considerably, and has reached, in the upper extremities, almost its natural standard; in the toes the increase is not so great, but is nevertheless considerable,

While I was out of town for some short time in April, the little girl died; and, in my absence, Mr. Thomas Thompson, one of the resident medical officers of the Queen's Hospital, kindly made a *post mortem* examination for me. It appears that for some few days before her death, the child laboured under a sharp attack of

congestive bronchitis, and her colour became much worse. Slight jaundice came on some 48 hours before her death. This, in addition to the cyanosis, caused great discolouration of the surface, making it, as the mother expressed it, "all colours in turn."

On the 22nd of April, the day after her death, Mr. Thompson made the *post mortem* examination.

The surface of the body was livid, but not so dark as it had been during life. Body rather emaciated; no œdema of the lower extremities. The lungs were found to be much congested, and frothy fluid exuded freely when they were cut into. No tubercle was found; the mucous membrane of the bronchi was red and congested. The pleuræ contained in their cavity some few ounces of serous fluid on each side. The pericardium, when opened, was found to contain one ounce and a-half of serous fluid. The heart was normal in appearance and size. Large fibrinous clots were found in the right cavities adherent to the walls. No hypertrophy of the ventricles. Right auricle, if anything, slightly thickened. Left auricle normal. No trace of any disease of the tricuspid, mitral, or semilunar valves was detected by the most careful scrutiny. The orifices of the aorta and pulmonary artery were not to the slightest degree narrowed. The only abnormalities, in short, which could be detected were patency of the foramen ovale, and a rather large-sized Eustachian valve. The communication between the auricles was small, admitting only a large-sized goose-quill; it was due to the want of development in the valve of the foramen ovale. This valve, attached above and below in the left auricle, was deficient in front, leaving an opening of the size mentioned, when the septum of the auricles was in its natural position. Pressure on the valve from the left auricle decreased the aperture of communication, while similar pressure on the right side increased it. The Eustachian valve presented nothing worthy remark beyond its large size. The ductus arteriosus was closed. Abdomen.—Some little serous effusion was found in the cavity. The stomach was pushed towards the left side by the liver, which was considerably enlarged, and of a pale yellowish colour—in spots almost yellowish green. It did not appear fatty; no microscopical examination was made. The spleen, normal in structure, was not enlarged. The other viscera were healthy. The head was not examined.

An attentive perusal of the history of these two children, and a careful consideration of the *post mortem* appearance discovered in the little girl will, I think, suggest to the mind several points of

much interest. The most notable of these I propose to consider briefly under the following heads:—

1. *The symptoms presented by the integumentary system (general symptoms).*
   (*a*). The discolouration of the surface.
   (*b*). The temperature of the general surface.

2. *The physical signs found on examining the hearts' sounds during life, and the post mortem appearances observed in the case of the younger.*

3. *The conditions presented in each by the nervous system.*

4. *The treatment.*

5 *The antecedent history of the children and of the parents.*

1. (*a*). Discolouration of the surface of the body, such as existed in these cases, and even to a more intense degree, has been observed to occur in many cases without the existence of any lesion admitting of admixture of the arterial and venous blood. Patency of the foramen ovale, and other free communications between the right and left cavities of the heart, have also been recorded in which no blueness of the skin was present. Marked cyanosis has, on the other hand, been frequently observed in cases where the only morbid condition found after death has been either constriction of the orifice of the pulmonary artery, or some other lesion causing great congestion of the venous system.

Armed with these facts, many authors, headed by Morgagni, Louis, Ferrus, and more lately by Dr, Stillè, argue that cyanosis depends, not on the mixture of the venous with the arterial blood, but solely on venous stasis, produced by contraction of the orifice of the pulmonary artery, or other lesion producing similar effects. Other authors[a], and with these I am disposed to agree, attribute the discolouration partly to the admixture of the venous and arterial blood, and partly to the congestion of the right cavities of the heart and the systemic venous system, which is the consequence of the lesion permitting the mixture. They at the same time admit that contraction of the orifice of the pulmonary artery, and like

[a] Gintrac, Hope, Walshe—Diseases of Heart and Lungs, 2nd Edition, 1854; Speer, Medical Times and Gazette, 1855, p. 412.

causes are, when very marked, to some extent capable of producing general cyanosis.

The intensity of the discolouration is also much greater, as pointed out by Dr. Cheevers, in cases in which the venous congestion has existed since birth, or from a tender age, on account of the probable greater dilatability and capacity of the vessels in early life. The condition of the skin has also a considerable share in modifying the intensity of the colour. In all cases, I believe, where marked cyanosis exists, the skin is generally thin and dry, and the cutaneous exhalation almost, if not entirely, lost. Now, when we consider that a large amount of carbonic acid, and carbon in other forms, is constantly being given off by the skin in health, and that the stoppage of this respiratory function of the surface has been found in animals to produce asphyxia, we can well understand the important part played in the aggravation of the cyanosis by the arrest of this exhalation.

The thinness of the skin also allows the dark blood filling its capillaries to be more apparent.

In applying these facts to the cases before us, we find, I think, that the view which attributes the cyanosis to the admixture of the blood, as well as to the venous stasis, is more consonant with the phenomena observed. In the little girl there was certainly no condition found in the heart, except the patency of the foramen ovale, to produce the lividity of the surface. This lesion, I consider, by permitting the passage of the blood from the right auricle into the left, not only caused the mixture of the blood, but also produced more or less obstruction to the return of the blood from the lungs into the left auricle, and thus caused, secondarily, congestion of the lungs, of the right cavities of the heart, and of the general systemic venous system. The part played by the congestion of the lungs in both these cases was well illustrated by the fact that any increase of this condition was always accompanied by greater discolouration of the surface. It has been observed, also, that as long as a full proportion of blood be circulated through the lungs, although this red blood be afterwards mixed with an equal quantity of black blood in the heart, yet no great discolouration of the skin occurs; but the moment any congestion of the lungs arises to disturb these proportions we have, more or less, marked cyanosis. The condition of the heart in the little boy I am inclined to consider similar to that found in the little girl, with, however, a larger aperture of communication between the auricles.

The state of the skin in both cases has been spoken of as thin and dry—so dry that the mother says the children have seldom, if ever, perspired. This dryness of the surface, although, probably to some extent dependent on the circulation of venous blood in the cutaneous vessels, nevertheless, I think, by stopping the exhalation of the hydro-carbons and carbonic acid through the skin, reacted on its cause, and materially increased the evil. The thinness and transparency of the skin, too, allowed the large and numerous capillaries to be more easily seen.

(*b*). The temperature of the surface of the body is always found to be considerably lessened in cases where the blood circulates in a venous condition. This we can readily explain by the fact that between the imperfectly oxidized blood and the surrounding textures those chemical changes cannot take place which require for their production blood containing a large proportion of oxygen, and which result in the formation of animal heat. Naturally, then, in cyanosis, where this condition especially obtains, we expect to find the temperature of the surface of the body considerably lower than in health. Hence we find, in the cases before us, a marked want of warmth on the surface. When investigated, the temperature of the fingers in the boy was often found as low as 64°, and the toes 59°, in a room where the thermometer stood at 58°. The palms of the hands and lower part of the fore-arm never showed a higher temperature in the boy than 70°; and on one occasion the temperature in his mouth fell to 90°. The observations in the little girl accorded well with those in the boy; her surface, however, as might be expected from the less marked cyanosis, being generally a degree or two higher We have in cholera, under somewhat similar circumstances (viz., the circulation of imperfectly arterialized blood, and the almost complete arrest of the chemical changes accompanying the disintegration of the tissues), the temperature as low as 70°, and sometimes even lower. I cannot, however, recall at present any cases of cyanosis in which the temperature was so low as in the case of Cornelius H. This remarkable deficiency of the power of forming animal heat in these cases is to be accounted for by the conditions under which they laboured, viz.:—

1st. The circulation of insufficiently oxidized blood through all the systemic vessels.

2nd. The arrest of the respiratory functions of the skin.

3rd. The mal-nutrition of the children depending on the deficiency of the supply of nutritive food.

The two former of these conditions were the more marked in Cornelius, in whom the temperature was the lower.

2. In remarking upon the physical signs found on examining the sounds of the heart in these cases during life, our attention is arrested by the character, the position, and the variability of the murmur as heard in each. In the boy, the bruit heard synchronous with the first sound was fairly distinct. It was audible chiefly with the latter half of the sound, and was heard loudest over the base of the heart, but was not heard either along the course of the aorta or pulmonary artery. During the whole period of treatment it has always borne a direct proportion to the congestion of the lungs, and to the discolouration of the surface; and since, under the treatment, the circulation through the lungs has been more free, the murmur has become much fainter. In the little girl the bruit was never heard with the same distinctness as in the boy, but gave rather the idea of a muffling and slight prolongation of the first sound; but was always louder in proportion to the pulmonary congestion; and when this condition was least the murmur was inaudible. Its position corresponded with the base of the heart. In my clinical observations to my class, after I had observed the cases for some time, I attributed the production of these murmurs to patency of the foramen ovale. This opinion I also put forward in a paper read before the branch of the British Medical Association here. I was led to this diagnosis by the want of any evidence of the hypertrophy of the right ventricle, by the fact of the murmur not being traceable along the great vessels, and by the faintness and by the occasional absence of the bruit, all of which conditions I conceived to be more or less incompatible with any constriction of the orifice of the pulmonary artery, the usual source of murmurs in these cases. Deficiency in the septum of the ventricles would, I considered, have caused the blood to flow from the left to the right cavity, on account of the greater power of the left ventricle; and any other considerable malformation of the heart would, I presumed, have caused much greater irregularity in its action. My views, as thus expressed, were singularly confirmed on examining the heart of the little girl after death. Most carefully have I, on several occasions, investigated the condition of all the valves and apertures, with the constant result of finding no other abnormal condition to account for the murmur but the patency of the foramen ovale. The perusal of Dr. Markham's case (*vide Med. Times and Gazette*, April 4, 1857), which presented, in the condition of the foramen ovale, some

resemblance to the state found in the heart of the little girl, confirms me in the opinion that the modification of the first sound in her case was caused by a murmur generated at the patent foramen. Let us consider briefly the conditions in this case favouring the production of such a murmur. We have a valve stretching across the foramen, and attached above and below in the left auricle, leaving an aperture, elliptical in shape, between its margin and the circumference of the opening. This aperture would be increased by any pressure from the right side, and proportionally decreased by a similar condition in the left auricle; the current of any flow of blood, therefore, would be rather from the right to the left cavity. The unusually developed condition of the Eustachian valve in this case, would, I conceive, direct the current of the blood from the inferior vena cava towards the foramen ovale, and this flow, impinging upon the body of the valve, would increase the aperture, and cause the valve to assume that tense condition in which vibrations of its margin would be produced by the passage of the blood from the right to the left auricle. Any congestion of the right cavities would also strengthen this condition by dilating the opening still more, and thus favouring the increase in intensity of the murmur by the flow of a stronger current of blood over the vibratile valve, while the opposite condition of the right cavities would diminish it. The occurrence of the murmur, too, during the diastole of the auricles, and, therefore, synchronously with the systole of the ventricles, supports this view, as pointed out by Dr. Markham. From these considerations, and also from the fact that repeated and careful examinations of the heart disclosed no other morbid condition capable of producing the bruit, I am constrained to agree with Dr. Markham in supposing that patency of the foramen ovale can, under certain conditions, produce a murmur with the first sound. One of the conditions present in this case, and on which I am inclined to lay some stress, being the existence of a well-developed Eustachian valve, by which the current is directed towards the patent foramen; the other, as pointed out in Dr. Markham's paper, being the existence of a valve connected with the inter-auricular opening, which, by its tension and vibrations, generates the sound as the stream passes over its margin.

The condition of the liver, as found on *post mortem* examination, is, I consider, worthy of remark, as showing the efforts made by this viscus to supplementalize the action of the lungs. In all the lower animals a pretty constant relation exists between the activity

of the lung functions and the size of the liver. Wherever the lungs are weak, and fail to decarbonize the blood, we find a proportionate increase in the size and activity of the liver. In this case, from the defect of the heart's formation, and in consequence of this, from the inability of the lungs to perform their duty thoroughly, we have, through the circulation of venous blood in the systemic vessels, an increased amount of decarbonization to be effected by the liver, and therefore the hypertrophy. The yellowish-green colour of the organ was due, I think, to its activity, and reminded me of the peculiar colour, described by Weber, as seen in the livers of frogs during the season of their greatest activity. The dark colour of the stools, and the occasional diarrhea to which the children were subject, were due, I believe, to the large secretion of bile; and the jaundice observed in the little girl, before death, was owing to the arrest of this secretion from the failure of the liver to respond to the extra call made upon it during the bronchitic attack.

3. The symptoms presented by the nervous system in cases of cyanosis are not often so well marked as in these cases, according to many observers; some authors,[a] indeed, go so far as to assert that there is usually no impairment of the intellect. In the cases before us, the dull and stupid expression of the countenances of the children was remarkable, and the diminished intelligence was found to be much greater in the case of the elder, in whom the cyanosis was the more intense; while in the little girl, whose colour was never so bad, the intellectual development was much higher. All the children thus born (*i.e.*, cyanotic) were, according to the mother, very stupid; and the one who lived to be six years old never spoke or walked. From what we know of the effects produced by the circulation of venous blood through the brain, the want of intelligence, as exhibited by these children, does not appear unaccountable. Sir Benjamin Brodie, in his *Psychological Inquiries*,[a] says, when speaking of the circulation of venous blood in the brain:—"The dark-coloured blood, if it has once been transmitted to the brain, even for two or three minutes, leaves an impression on it, from which it may not recover for half an hour, or even longer." And again, in the next sentence but one, he says:—"In fact, the dark-coloured blood transmitted to the brain operates as a narcotic poison." This recalls to our mind the fact, that Dr. Snow laid

[a] *Vide* Fuller on Diseases of the Chest, article "Cyanosis."
[b] Page 122, Second Edition. 1855.

down the great law that narcotism is but suspended oxidation. It is, from these considerations, natural to suppose that the constant circulation of blood, deficient in oxygen, through the brain, must materially affect the intellectual development. In a case, however, published by Dr. Richardson (*vide Medical Times and Gazette*, December 22, 1860), the intellect was remarkably clear. From a perusal of this case, I am rather led to think that the mental clearness was due to the fact that there had been no great interference, during the greater part of life, with the functions of the lungs, and that, therefore, the exhalation of carbonic acid and the absorption of oxygen took place freely. When these conditions are not fulfilled I believe that more or less disturbance of the intelligence will always result; and that in all cases of marked cyanosis the intellectual powers will always bear a strict proportion to the quantity of oxidized blood which reaches the brain. The irritability of the temper we may, I think, attribute, with justice, to the disturbance of the brain functions, consequent on the circulation of venous blood; and to the same cause, acting on the cerebro-spinal system, is to be placed, partly, the inability exhibited by the little boy to walk, and not solely to malnutrition of the muscles. The other symptom—viz., the twitchings of the muscles—which so often disturbed the sleep of these children, we may fairly attribute to the circulation of black blood through the muscles; muscular spasms being known to frequently occur under such conditions.

4. *The Treatment.*—In all systematic works which devote a chapter to this peculiar disease, the merely palliative character which the treatment is obliged to assume, on account of the incurable nature of the malformation, is justly noticed. But after the recommendation of such remedies as are likely to benefit the paroxysms of difficult breathing, palpitation, &c., we are told that the temperature of the surface must be kept up by warm clothing, friction, &c., and that of the body generally elevated by the free administration of nutritious food, "oil, fat, gum, and other aliments of respiration."[a] In the early treatment of these cases I followed the principles generally laid down, but failed to attain any satisfactory result with regard to the increase of the temperature of the surface. This is not, I think, to be wondered at. For I cannot see how any benefit is to be derived from the addition of carbonized materials to blood already laden with carbonic acid; and in a system where the congested

[a] *Vide* Walshe, Diseases of Lungs and Heart, page 521. (Ed. 1851).

state of the lungs, consequent on the malformation, prevents these organs (already overworked) from making any extra effort to obtain for the blood that amount of oxygen essential for the production of heat by the combustion of such carbonized food. Such treatment can afford no benefit; and unless we can at the same time guarantee an equivalent increase of oxygen, the additional carbon only aggravates the evil. We cannot look to the lungs to absorb for us their extra quantity of oxygen from the air, and, therefore, I submit, we must either feed the body with this element, by affording to the lungs air containing a larger amount of oxygen than exists in the atmosphere, or supply it through the stomach, by the administration of such drugs as will afford, by their decomposition during digestion, free oxygen to the blood. To use a homely illustration—the smouldering embers in the fireplace of an ill ventilated room are soon extinguished by the free addition of fuel; but by the addition of fuel in small quantities, and the admission of a copious draught of air, the dying ashes are soon kindled into a genial blaze. I adopted the latter of the two alternatives pointed out, in my treatment of these children; and at first tried to fulfil the indication by the administration of chlorate of potash, hoping that by the decomposition of the salt its large proportion of oxygen would be absorbed by the blood. The success which attended the use of this drug was satisfactory; and I continued it for some time, during which period the colour improved, and the temperature rose several degrees. This success confirmed me in the opinion that this was the rational treatment, and induced me to substitute for the chlorate of potash a more powerful oxidizing agent, the peroxide of hydrogen, ($HO_2$), introduced by Dr. B. W. Richardson (of London). At first, as I gave this remedy in small doses, it acted little better than the chlorate; but from the moment that I gave it to the boy in fair doses, his appearance changed. The colour of the face, which was before very cyanotic, became but slightly darker than natural; and his cheeks assumed, in place of a violet blue colour, a dusky reddish hue. His eyes, that before were dull, heavy, and expressionless, cleared and brightened, and followed with evident interest the movements of a stranger, and at once fixed on attractive objects. His breathing, before laboured, became much easier; his appetite improved; and the twitchings of his muscles ceased. The skin, before always dry, became soft, and on the body frequently moist. And, above all, the temperature rose to be, on an average, in the fingers, 82°; in the toes, 73°; and, in the groin, 91°: on one

occasion the fingers were 89°. All the observations were taken in rooms varying in temperature from 63° to 64°. And when the mother, from domestic causes, was prevented bringing the child to the hospital, and the administration of the remedies ceased, the child relapsed almost to its former condition. The drug is, however, now constantly given in eight minim doses, three times a day, with a drachm of cod-liver oil twice a day, with the best effects. The child has improved both physically and mentally. When I last saw him (June 6th) he was playing with some toys, in which he evidently took a lively interest. The cyanosis was scarcely perceptible, the only peculiarity striking the observer being a slight blueness of the lips. His mother told me that he had made attempts, of late, to speak; and he can now utter, with tolerable distinctness, two or three words. His stools are much better in colour. His appetite is good. The liver still continues enlarged and active. The paroxysms of passion still often recur; but his colour is, by no means, as dark during their continuance. The temperature of the surface still continues to average the same as stated above—the only parts ever feeling cold being the toes. The continuance of the administration of the remedy will, I think, be attended with still further improvement in the child's state, as the blood becomes more normal in its character and circulating through the different organs in a more oxidized state, enables them to perform their functions more naturally, and, therefore, more perfectly. The great success which has attended this treatment, and the retrogression in the child's state which marked its temporary cessation, are, I think, the best proofs I can offer of its physiological correctness. The peroxide of hydrogen will, I doubt not, prove a valuable addition to our list of Materia Medica. Its action in this case leads me to rank it as one of the best, if not the best, oxidizing agent we possess for internal administration; and I believe its use will be found to be attended with great benefit in all diseases marked by deficient oxidation.

5. The antecedent history of the children and of the parents affords many interesting and singular peculiarities. The more striking of these I will at present merely enumerate; but on some future occasion I trust to dwell on them more fully. They are:—

(*a*). The near relationship existing between the parents—first cousins.

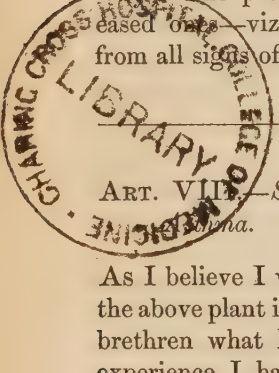
(*b*). The rheumatic fever from which the mother suffered shortly before her marriage, and which probably slightly affected her heart.

(*c*). The want of any evidence of cardiac disease in either parent.

(*d*). The peculiar cardiac symptoms which attended the gestation of each cyanotic child.

(*e*). The number of children born with cyanosis—five out of seven.

(*f*). The production of two healthy children between the diseased ones—viz., the second and fourth—both still alive and free from all signs of malformation or disease of the heart.

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ART. VIII.—*Some Account of the Datura Tatula, and its Use in Asthma.* By JOHN F. M'VEAGH, M.D., L.K.Q.C.P.

As I believe I was the first medical man in this city to introduce the above plant into use, I am anxious to bring before my professional brethren what I know about it; especially as from the limited experience I have had of it, and from its success in the hands of others abroad, I am inclined to believe that it is a remedy of great efficacy in cases of asthma and chronic bronchitis, and worthy of the attention of our profession. The first time that I ever heard of the datura tatula was during an attendance I had, in the year 1850, on the late Lord Dunsany. He was attending a public meeting, in the March of that year, in the Rotundo, and was engaged to speak upon a subject of interest to him; when, owing to the excitement and fatigue consequent thereon, he was seized with a most fearful attack of asthma—to which he was subject—and was with difficulty conveyed to his hotel, in Sackville-street, where I saw him soon after. I never witnessed a more severe attack; and the paroxysms of orthopnea were so violent that I expected every moment to see him asphyxiated. Having subdued the most urgent symptoms by pediluvia, sinapisms, and some antispasmodic, he was enabled to speak to me, and the first remark he made was, that if I had no objection, he had a remedy at hand, of great power, which would quickly relieve him. I, of course, assented, and his valet brought him a pipe, filled with the above-named ingredient. He had scarcely smoked for more than a minute or so, when the dyspnea began to abate; and in about ten minutes more he was relieved wonderfully. He informed me then that the plant he smoked was the datura tatula, and that the bruised seeds and dried herb were equally mixed for the smoking ingredients. He had used it for

years, with the most perfect success in allaying the spasms. The beneficial effects could only be but temporary with him, as he laboured under cirrhosis of one lung, and valvular disease; but certainly the inhalation had the most magical effect I ever witnessed; and had his lordship's case been one of uncomplicated asthma no doubt the remedy would have proved a specific. On enquiry, he informed me that he procured the plant from Malta, where it grew abundantly in the governor's garden; and he kindly gave me some of the seeds, which I forwarded to the then curator of the Botanic Gardens. Unfortunately they were mislaid, and his lordship dying about two years afterwards, I had no opportunity of procuring another supply. Having frequently failed in relieving subsequent cases of asthma with the usual remedies, it occurred to me that I would try and procure the datura tatula. I applied, therefore, to Messrs. Bewley and Evans, and they obtained it from their agents in London, where also the virtues of the remedy were becoming known. I also wrote to the Right Hon. More O'Farrell, M.P., who, having been Governor at Malta, would most likely know something of so valuable a remedy. He most kindly informed me "that the datura tatula was a remedy much prized there in cases of asthma—successful in some cases, and in others not." I suspect the latter were not cases of pure asthma; hence the failure, to a certain extent, of the remedy. I resolved, however, to give it a fair trial in any cases of asthma or chronic bronchitis that might come under my notice; and, in a few cases that I have already used it in, the results have been most satisfactory.

The first case was a clergyman in this city, liable, for years, to most severe attacks of asthma, in which the usual remedies were of little avail, until after many days of suffering. I induced him to give the datura tatula a trial; and the last time I saw him he informed me, with great pleasure, that smoking the plant, in the manner I directed him, had completely cured him of a threatened paroxysm. He had often smoked stramonium, but with no relief to his suffering. He takes also the extract of the tatula as a prophylactic, at bed-time. The next case was that of a gentleman in the county Roscommon, who has been a martyr, for years, to attacks of pure asthma, and who tried in vain to procure some remedy to ward off the paroxysms. He now smokes the tatula whenever the fit is impending, with perfect relief. Another case of chronic bronchitis has been thoroughly benefited by the extract, in a pill, at night, and some of the tincture added to an ordinary expectorant mixture.

These cases, even few as they are, give me every reason to hope that in the datura tatula we have found a valuable remedy in cases of asthma, and that it will be a useful adjunct to our *Materia Medica.*

No doubt, cases of uncomplicated asthma are rare; but even in complicated cases, as in that I have first mentioned, it proved a most valuable agent in affording relief. Its action upon the human system resembles stramonium, in some degree; but it is more antispasmodic, and less narcotic, than the former, and rarely causes headache, or leaves any unpleasant dryness of the fauces, or sense of constriction in the pharynx, as the stramonium so constantly does. Messrs. Bewley & Evans have prepared, according to my directions, the ingredients for smoking, also an extract and a tincture. The extract is made with coarsely-pounded tatula, with cold water, exhausted by percolation, and the liquor evaporated to the usual consistence by steam heat. The dose is from half-a-grain to one and a-half grain. The tincture is made by digesting, for seven days, one part of powdered herb in eight parts of proof spirit. Dose—20 to 60 minims. The tincture, diluted with distilled water, remains transparent. The solution precipitates greyish yellow with tincture of galls and ferrocyanide of potassium, becomes of an inky colour with solution of perchloride of iron, and precipitates whitish with nitrate of silver. It does not precipitate with perchloride of mercury or acetate of lead. In a preliminary analysis of the plant, made by my friend, Dr. Aldridge, he finds that it contains an alkaloid, tannin, and, probably, some chloride. The botanical history of the plant will be found in Pariera's *Materia Medica;* but he makes no comment upon its utility.

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Art. IX.—*A Short Description of a Mirror, by means of which the Larynx of the Examinee may be Demonstrated either to a Colleague, in Consultation, or to a Class in Hospital.* By Philip C. Smyly, M.D., T.C.D.; Surgeon to the Meath Hospital.

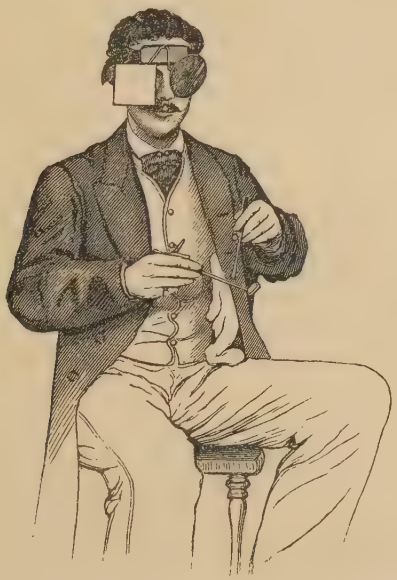
It is with diffidence I venture to make any addition to the very complete instrument introduced into general practice by my friend and instructor, Professor Czermak. Ever since I first introduced the laryngoscope into this country, in 1860, I felt the difficulty of demonstrating the larynx of the patient to a third person not skilled in the use of the instrument.

A considerable amount of practice is required, not only to throw

a steady light into the pharynx, but a certain delicacy of touch in introducing the faucial mirror so as not to produce nausea. This is only to be attained by constant practice. It is a great advantage, in consultation, to show the larynx distinctly. In the ordinary method, when the examiner has a full view of the vocal cords of the examinee, he calls upon his colleague to view the parts; who, when he places his head beside that of the examiner, only gets a partial view—a portion of the epiglottis, one arytenoid, and, perhaps, a vocal cord. In endeavouring to see more, he pushes the examiner's head, so as to displace the light, or shakes his hand, so as to bring on nausea. Many other inconveniences will occur to the mind of the practical laryngoscopist which I shall not here allude to.

My addition consists of a simple square piece of very good plate glass mirror, set in brass, like Weiss' concave mirror. A second split tube is soldered on close to the tube which exists on all Weiss' frontal bands, and a brass rod, the ends of which are bent in opposite directions, at an angle of 45°.

The mode of using this glass is as follows:—The laryngoscope is fixed, as usual, before either the left or right eye. The brass rod is fixed in the tube, beside that which holds the rod supporting the reflector; and my square glass is fixed on the other end, as is very well shown in the engraving.



As the angles of incidence and reflection are equal, the mirror may be turned to such an angle that the second examiner may be placed at such a distance from both the patient and operator that his presence cannot disturb the steadiness of either. The view the second examiner has of the larynx in the square mirror is not inverted, being twice reflected. The right vocal cord of the examinee is to the right hand side of the examiner number two.

The glass employed in the manufacture must be as perfect and parallel as possible, so that the loss of light may be a minimum.

In conclusion, I may add that the additional weight of the square glass, when made in the artistic manner in which mine has been made, by Messrs. Spencer and Son, of Aungier-street, Dublin, is scarcely perceptible.

# PART II.

## REVIEWS AND BIBLIOGRAPHICAL NOTICES.

*Studies in Physiology and Medicine.* By the late ROBERT JAMES GRAVES, F.R.S., Professor of the Institutes of Medicine in the School of Physic in Ireland. Edited by WILLIAM STOKES, Regius Professor of Physic in the University of Dublin. London: J. Churchill and Sons. 1863. 8vo., pp. 428.

THIS volume, a memorial of Graves, is, by his brother and by the editor, dedicated to Professor Trousseau, Member of the Imperial Academy of Medicine, Commander of the Legion of Honour. The papers contained in it have been selected from many which, from time to time, have appeared in various periodicals; those only which bear on physiology and medicine having been reproduced; and, while it is not intended that they should be taken as setting forth the state of physiology in our time, it is thought that these remains of Graves have an especial value, as showing how the mind of a great physician dealt with physiology in its true relations to medicine.

The volume is prefaced by a sketch of the life and labours of Graves, from the pen of the editor; and, in writing this memoir of "him who was once his teacher, then his colleague, and ever his friend," Dr. Stokes but obeys the promptings of a desire, which has long been present to him, that the members of his profession should have a more intimate knowledge of one who was so worthy of being enrolled among the benefactors of medicine. The great work on *Clinical Medicine*, with which Dr. Graves' name is so honourably connected, is, no doubt, amply sufficient to entitle the name of the author to a high position on the roll of fame; but, great as the scope of this work is, and though it shows evidence of successful labour so multitudinous, it does not, nor, from its nature, could it, convey a fitting idea of the varied stores of knowledge laid up in

the mind of its author, whose life and works—whose powers of observation—whose energy and faithfulness in teaching—mark, says his biographer, an epoch in British medicine.

In fulfilling his task of biographer, Dr. Stokes has, above all things, been anxious to avoid excessive eulogium; to some it may almost appear that he has, in his desire to shun this too common fault, fallen into the opposite extreme; but, at all events, all will coincide with him in saying that the life and labours of Graves show, in an admirable manner, how the past can be made to illuminate the works of the present time; for his mind, while it mastered all modern discoveries in physiology and in medicine, still remained imbued with that old strength and breadth of view, so characteristic of the fathers of medicine—of Sydenham, Fothergill, Haygarth, Huxham, Cullen, and Gregory; and among Continental writers, of John Peter Frank. And thus he had a rare privilege of leading the advance of the modern school of practical medicine in this country, while, in his practice and in his teaching, he never ceased to venerate and be influenced by the thoughtful labour and the wisdom of the past.

Descended from Colonel Graves, an officer in the Protector's cavalry, who acquired large estates in the county of Limerick, Dr. Graves was the third and youngest son of Richard Graves, D.D., Senior Fellow of Trinity College, and Regius Professor of Divinity in the University of Dublin, his mother being the daughter of another Fellow of Trinity College. With his brothers, he passed through the University with great distinction—each of them obtaining, at the degree examinations of three successive years, the gold medal in science and in classics, then the highest distinction obtainable by students. Dr. Graves' professional education was well worthy of his early training, In 1818 the degree of Bachelor of Medicine in the University of Dublin was conferred on him, and soon afterwards he proceeded to London, where he studied for some time; then three years were employed in visiting the schools of Berlin, Göttingen, Vienna, Copenhagen, and those of France and Italy; after which he resided for some months in Edinburgh, before returning to Dublin. In this large and truly liberal education, which embraced the training of the school, the university, and the world, we can discover, in part, the foundations of his subsequent eminence. He made himself intimate with the recent discoveries and modes of thinking in every great school of medicine, whether abroad or at home, and formed friendships with the leading

physiologists and physicians of Europe, with many of whom he kept up a correspondence during his life. Dr. Stokes narrates some incidents that occurred during this period which exhibit traits so characteristic of the man that we must extract them in full:—

"His power of acquiring languages was remarkable. On one occasion, when on a pedestrian journey in Austria, having neglected to carry his passport, he was arrested as a spy, and thrown into a dungeon. His assertion that he was a British subject was disbelieved by the authorities, who insisted that no Englishman could speak German as he did! In his imprisonment, which lasted for ten days, he suffered great privations.

"During his sojourn in Italy, he became acquainted with Turner, the celebrated landscape painter, and was his companion in many journeys. He often spoke of the pleasure he enjoyed during the sketching tours taken in company with the great painter. The history of his first meeting with Turner, may be here related:—

"Graves was travelling by diligence, when, in one of the post stations on the northern side of the Alps, a person took a seat beside him, whose appearance was that of the mate of a trading vessel. At first, no conversation took place between them, but Graves' curiosity was soon awakened by seeing his fellow-traveller take from his pocket a note-book, across the pages of which his hand, from time to time, passed with the rapidity of lightning. Overcome at length by curiosity, and under the impression that his companion was perhaps insane, Graves watched him more attentively, and discovered that this untiring hand had been faithfully noting down the forms of the clouds which crossed the sky as they drove along, and concluded that the stranger was no common man. Shortly afterwards, the travellers entered into conversation, and the acquaintance thus formed soon became more intimate. They journeyed together, remaining for some time in Florence, and then proceeding to Rome. Graves was himself possessed of no mean artistic powers, and his sketches from nature are full of vigour and truth. He was one of the few men in whose company Turner is known to have worked. The writer has heard him describe how, having fixed on a point of view, he and his companion sat down, side by side to their work. 'I used to work away,' he said, 'for an hour or more, and put down as well as I could every object in the scene before me, copying form and colour, perhaps as faithfully as was possible in the time. When our work was done, and we compared drawings, the difference was strange; I assure you there was not a single stroke in Turner's drawing that I could see like nature; not a line nor an object, and yet my work was worthless in comparison with his. The whole glory of the scene was there.' The tone and fire with which Graves uttered these last few words spoke volumes for his sympathy with, and his admiration of the great painter of nature.

"At times, however, when they had fixed upon a point of view, to which they returned day after day, Turner would often content himself on the first day, with making one careful outline of the scene. And then, while Graves worked on, Turner would remain apparently doing nothing, till at some particular moment, perhaps on the third day, he would exclaim, 'There it is!' and seizing his colours, work rapidly till he had noted down the peculiar effect he wished to fix in his memory. It is a curious fact, that these two remarkable men lived and travelled together for months, without either of them inquiring the name of his comrade, and it was not till they reached Rome, that Graves learned that his companion was the great artist.

"After leaving Rome he visited Sicily, and in connexion with this excursion, the following incident is worthy of being recorded, as giving an insight into his character, and as preparing us to estimate one of its features, for which in after-life he was justly distinguished, namely, his promptness and vigour of action, when confronted with difficulty and danger.

"He had embarked at Genoa, in a brig bound for Sicily. The captain and crew were Sicilians, and there were no passengers on board but himself and a poor Spaniard, who became his companion and messmate. Soon after quitting the land, they encountered a terrific gale from the north-east, with which the ill-found, ill-manned, and badly-commanded vessel, soon showed herself unable to contend. The sails were blown away or torn, the vessel was leaking, the pumps choked, and the crew in despair gave up the attempt to work the ship. At this juncture Graves was lying on a couch in the cabin, suffering under a painful malady, when his fellow passenger entered, and in terror announced to him that the crew were about to forsake the vessel; that they were then in the very act of getting out the boat, and that he had heard them say that the two passengers were to be left to their fate. Springing from his couch, Graves flung on his cloak, and, looking through the cabin, found a heavy axe lying on the floor. This he seized, and concealing it under his cloak, he gained the deck, and found that the captain and crew had nearly succeeded in getting the boat free from its lashings. He addressed the captain, declaring his opinion that the boat could not live in such a sea, and that the attempt to launch it was madness. He was answered by an execration, and told that it was a matter with which he had nothing to do, for that he and his companion should remain behind. 'Then,' exclaimed he, 'if that be the case, let us all be drowned together. It is a pity to part good company;' as he spoke, he struck the sides of the boat with his axe, and destroyed it irreparably. The captain drew his dagger, and would have rushed upon him, but quailed before the cool, erect, and armed man. Graves then virtually took command of the ship. He had the suckers of the pumps withdrawn, and furnished, by

cutting from his own boots, the leather necessary to repair the valves, the crew returned to their duties, the leak was gained, and the vessel saved."

On his return to Dublin, in 1821, Graves at once took a leading position in the profession, and in general society. His biographer thus describes his personal appearance and character at this period; a description the truth of which will be recognized even by those who only knew him in his later years:—

"Nature had been bountiful to him: he was tall in stature, of dark complexion, and with noble and expressive features. In conversation he possessed a power rarely met with; for while he had the faculty of displaying an accurate and singularly varied knowledge without a shade of egotism, he was able to correct error without an approach to offence. From this may be learned one source of that power he so possessed of influencing the minds of men; for there is nothing more captivating than the conversation of one who, though by nature proud, has trained himself to be mentally humble.

"He had at once a warm and a sensitive heart, and ever showed lasting and therefore genuine gratitude for the smallest kindness. Loving truth for its own sake, he held in unconcealed abhorrence all attempts to sully or distort it; and he never withheld or withdrew his friendship from any, even those below him in education and social rank, if he found in them the qualities which he loved, and which he never omitted to honour.

"It is to be observed that as his mind was open and unsuspicious, he, occasionally, fell into the error of thinking aloud without considering the nature of his audience, and of letting his wit play more freely, and his sarcasm, when defending the right, cut more deeply than caution might dictate.

"This outline of the character of Graves at the commencement of his public life, will throw light on many matters relating to his subsequent career, and it is important to note that the world never spoiled him, so that he preserved most of the youthful, and all the kindly and better qualities of his mind up to the hour of his death. His friends became bound to him with ties stronger than those of relationship, and thus he was enabled to take with a 'frolic welcome' the occasional and natural hostility of the bad, the presuming, or the indirect man."

Another biographer has borne testimony to his powers as a lecturer, in terms equally laudatory with those we have just quoted from Dr. Stokes:—"As a Lecturer," he says, "Professor Graves was endowed with peculiar capabilities. To a remarkable person

he added great powers of arresting attention in the very outset of his discourse, which, by an almost startling impressiveness, he maintained throughout. His ideas were conveyed in a bold, fluent, and classic style. In his language he was always forcible and elegant; and though frequently eloquent, he never sacrificed his subject for flowers of rhetoric, or lost sight of his text in the froth of a metaphor; for, whether discussing the investigations of others, or detailing the results of his own enquiries, he ever manifested the same critical acumen, the same powers of the most piercing analysis."[a] The same writer claims for Graves that he was "the first great medical teacher we have had in this country;" and that he laid the foundation of the high reputation possessed by Dublin as a school of practical medicine, by his introduction of the system of clinical teaching. "This just celebrity," he says, "was brought about by the advantages offered to the student (for the first time in this country) to study disease, not from the well-devised oration in the lecture-room, or the printed, and, perhaps, graphic description of it in his closet; but by observing all its forms, changes, and symptoms at the bed-side; by having a patient submitted to his care, under the direction of the physician—the previous history of whose case it was his business to inquire into, and every step in whose malady he was required to note with accuracy, and at a daily examination, before his class, to detail to his critical examiner. By this system was the student not only afforded an opportunity of observing and learning disease, but of testing his own quantity of information and practical knowledge."

At this period the Irish School of Medicine was, as Dr. Stokes remarks, in an unproductive state, its energies being confined to the mere teaching, in the theatre, of anatomy and surgery, and even of medicine. Doubtless many circumstances contributed to this, of which not the least influential was the state of collapse that ensued on the accomplishment of the Union; for the history of the previous years is, as has been shown by Mr. Wilde,[b] full of evidences of original and independent research, and of vigorous efforts for the furtherance, not only of medicine, but of science generally. But

[a] See "Our Portrait Gallery, No. XXVII." Dublin University Magazine, February, 1842. This sketch of Graves' life and labours appeared during his lifetime; and we have reason to believe was written by Mr. Wilde. It is accompanied by a likeness by Gray.

[b] See The History of Medical Periodic Literature in Ireland, in the First Volume of our present series.

the war with France, as Dr. Stokes very justly remarks, also influenced us injuriously; for, by increasing the demand for military and naval surgeons, it rendered it necessary to qualify young men, by special instruction in anatomy and surgery, to enter the public service in the shortest possible time. For this end the facility of obtaining subjects for dissection in Dublin gave a great opportunity, but it became little more than a school of elementary anatomy, of book medicine, and book surgery; and, although it possessed teachers of excellent calibre, they had but a local reputation. Clinical investigation and clinical teaching nearly ceased, and could scarcely be said to exist; and so the great path to the advancement of the healing art was almost untrodden, and the minds of our young men were unawakened to the value and necessity of original work. But, at about the time of Graves' return to Dublin, the dawning of better days began to appear. A new generation was coming forward; the war was over, and a general movement in most departments of mental culture commenced amongst us—a movement giving good hope for the future of the country.

The modifications of the University system, introduced by Dr. Lloyd, Provost of Trinity College, gave an impetus to collegiate study, and spread a new influence over the country, as evidenced by the general advance in mathematical, physical, and natural sciences; and in the studies of literature and archeology. Medicine shared in the movement. Cheyne, a Scotchman—but so long resident in Dublin as to be identified with the Irish school—associating with himself the leading members of the profession of medicine and surgery in Dublin, commenced, in 1817, the publication of the *Dublin Hospital Reports:* and about the same period the Fellows and Licentiates of the College of Physicians formed themselves into an association, chiefly with a view to the improvement of pathological science, and commenced to publish their transactions, simultaneously with the Hospital Reports—each of them extending to five volumes, and inferior to no publication of a like nature; both of which became merged into our own Journal, which is, in fact, their lineal descendant. The first volume of the Hospital Reports was edited by Drs. Cheyne, Ed. Percival, and Colles, and Todd; the remaining, till the fifth, by Colles and Cheyne, and the fifth, which appeared in 1830, by Graves. A new series of the *Dublin Medical Transactions* was commenced in this year, but only one volume of it appeared; and in 1832 the first number of our own Journal appeared, at first, under the editorship of

Mr., now Sir Robert Kane, but almost immediately afterwards Drs. Graves and Stokes were associated with him as its editors. To them, in 1834, Sir Robert, on obtaining the Professorship of Natural Philosophy in the Dublin Society, resigned its management, and they continued to conduct it till 1842—one of Graves' labours that Dr. Stokes has omitted to record.

Soon after Graves began to practise in Dublin, he took an active part in the founding of the new School of Medicine in Park-street; Dr. Stokes gives the date as 1821, and says that in the same year he was elected physician to the Meath Hospital; but we believe the Park-street School was not founded till 1824.[a]

As physician to the Meath Hospital, Graves applied himself to the improvement of clinical teaching, and thereby laid the foundation of the eminence which the Irish School of Medicine has since attained. In the first introductory lecture that he delivered at the hospital, and from which Dr. Stokes quotes largely, he discussed the subject of clinical teaching in a manner so comprehensive—with an apprehension of the necessities of the student, and of the responsibilities of the teacher, so clear—and with a consideration for the feelings of the patients so just, that, notwithstanding all that has since been written on the art of teaching, it has never yet been equalled. His analysis of the methods of teaching adopted in other schools, while it shows that when travelling he was not only an industrious but keen observer, conveys an amount of information on the subject the value of which cannot be too highly estimated. As a teacher he was careful to carry out the principles he himself laid down ; the student was taught to teach himself, was made familiar with bed-side medicine and the " ways of the sick," was led to exercise his powers of perception, to train his mind to reason rightly on the phenomena of disease, and to learn the duty, as well as taste the pleasure, of original work.

[a] We find the following names among the teachers in this school from its foundation :—

*On Anatomy.*—Jacob, Hart, Carlile, Alcock, George Greene, Denham, Hill, Young, G. Stokes, Wilkin, M'Donnell, Sawyer, Kidd.

*On Surgery.*—Wilmot, Cusack, Porter, Houston, Fleming, J. Hamilton.

*On Medicine.*—Marsh, Graves, Stokes, Duncan.

*On Chemistry.*—Apjohn, Williams, Gregory of Edinburgh, W. Colles, Aldridge, Simpson.

*On Materia Medica.*—Osborne, Evanson, M'Dowell, Banks, Eades, Drury.

*On Midwifery.*—S. Cusack, Maunsell, Beatty, Isdell.

*On Medical Jurisprudence.*—Adrien, Geoghegan, Reid, G. Stokes, Forde.

*On Medical Botany.*—Corbet.

*On Diseases of the Eye and Ear.*—Wilde.

"The impassible gulf which in that aristocratic era lay between the student and his so-called teacher, was by Graves made to disappear, and for the first time in these countries was the pupil brought into a free and full and friendly contact with a mind so richly stored that it might be taken as an exponent of the actual state of medicine at the time; a mind ardent in research, fruitful in discovery, and yet no miser of its wealth, but ever ready to pour forth its riches to all, and for all who were ready to receive them.

"The writer will be borne out in what he has now said by those who remember the impetus which the teaching of Graves, at the Meath Hospital, gave to clinical study in Dublin. In the opinion of the world the great sources of success in a teacher are his powers of exposition, and his extent of knowledge combined with the gift of eloquence; but this view of the matter is too limited. All these, indeed, he had. The style of his speaking was massive, nervous, and forcible, unweakened by sentimentality and undisfigured by bathos. Yet in considering the sources of success in a teacher we must look beyond oratory or erudition. A great teacher must in the first place be gifted with that strange power, partly physical, partly moral, which in itself gives to its possessor command over the minds of men. In the next place, the teacher must be thoroughly in earnest, for this gives to every word he utters a power of forcing its way that cannot be resisted. Lastly, to use the words of Arnold, 'he must not supply his hearers from a cistern, but give them living water.' He cannot expect to command attention or interest when he gives, year after year, only the same facts, views, and arguments no matter how valuable they may be. For even to those who hear him for the first time, his discourse will fail in vitality, and in producing that sympathy between the speaker and the hearer, which makes the latter not only receive gladly what has been said, but almost anticipate that which is to follow. This power is attainable only when the teacher is himself an original investigator, when he has himself been permitted to strike the rock, and to cause it to pour forth the fresh and sparkling stream. Genius, the creative power, so far as such a power is given to man, will, while it produces its golden fruits, find a descriptive language of its own, which he who deals merely with the thoughts and discoveries of other men can never speak.

"Original investigation, it is plain, not only is concerned with the new, the unknown, but gives to the past a freshness by the analogic method. In this latter, Graves was preëminent. His active mind was ever on the search for analogies, and thus he was led to the discrimination of things apparently similar, and to the assimilation of things at the first view dissimilar, in a degree hardly surpassed by any teacher of medicine."

"In reviewing Graves' medical doctrine," says his biographer,

"it is found to be essentially eclectic." We need scarcely say that Dr. Stokes does not attempt anything of a full exposition of Graves' teachings in medicine: to do so would require a commentary equal almost to that of Van Swieten on the *Aphorisms of Boerhave.* He contents himself, instead, with giving a rapid sketch of his leading doctrines, and the following enumeration of the more important of his special contributions to practical medicine:—

"1st. The employment of food and stimulants in fever, even from its earlier periods; in other words, their use by anticipation.

"2nd. The exhibition of acetate of lead conjoined with opium in spasmodic cholera.

"3rd. The development of the laws of pathological reflex action, as given in his Lectures on Paralysis, in which he has anticipated the views of Marshall Hall.

"4th. The employment of tartar emetic and opium in the delirium and insomnia of typhus fever.

"5th. The method of operating for the evacuation of hepatic abscesses by promoting adhesion between the hepatic and parietal peritoneum.

"6th. The observation of the latent periodicity in intermittent fevers.

"7th. The demonstration of the independent action of the capillary system in health and in disease, and the practical applications of this doctrine in the treatment of disease.

"8th. The account of the yellow fever as it appeared in Dublin in 1828.

"9th. The observations on symmetrical diseases.

"10th. The nature and functions of the lymphatic system.

"11th. The influence of position on the pulse, in health and in disease.

"12th. The description of the disease lately termed Ex-ophthalmia cachectica."

Although ardently devoted to the study of physiology, Graves, recognizing the true limits of that science, applied himself to the investigation and arrangement of the *effects of vital actions* rather than to *their nature.* He always attached great importance to the action of the capillary system, and combatted the *vis a tergo* theory of the circulation in health and disease; and in pathology taught that the local change is not the disease; for that to produce it a change in the vital action of the part must go before. In the following extract we have Dr. Stokes' summary of his opinions on some important points as to the pathology of fever:—

"In reviewing the portions of the *Clinical Medicine* which are devoted to Fever, we are at once struck with the absence of that tendency to

dilate upon fine or doubtful distinctions, which is so often met with in medical writings. We have no long disquisitions on the differences between typhus and typhoid fever, with which so many of our brethren have been lately occupied; nor, again, have we arguments to show that dothinenteritis is a mark of civilization and comfort, while its absence in fever is characteristic of the want and degradation of the Irish branch of the Celtic race. He did not form any theory of fever; but he did much better, in diligently studying its symptoms, watching how they were grouped, and in what order they followed each other; and lastly, in observing the effects of treatment in their progress. For, he well remarks, that the knowledge we possess of the nature of fever is of a negative character, telling us what it is not, rather than what it is. The writer is anxious to insist on this point, perhaps, indeed, because it coincides with his own convictions, as well as on the following, that after the experience of a life, and in circumstances the best adapted for observation, Graves arrived at the conclusion,—that the several forms of continued fever in this country are varieties, not distinct species, differing by any anatomical character. It may be held that, in this country at least, there is no essential difference between typhus and what is called typhoid fever. We know that the same contagion will produce both forms ; and, again, that these forms are mutually convertible. Before physicians indulge in theories, as to any particular disease, it is necessary that they should study it in different countries. Had Broussais studied fever in Ireland, the so-called physiological doctrine, so far at least as fever is concerned, would never have been announced, nor the error committed of taking the anatomical consequence for the cause. Had Clutterbuck followed a similar course, we should never have had the cerebral theory. Had Rasori been a physician to an Irish fever hospital, would the contra-stimulant doctrine have existed? And, to come to later times, we may safely affirm that the distinctions of recent British and American writers would have been at least less strongly drawn, had they studied the disease in our hospitals.

"Let us briefly enumerate the leading points of the doctrine of fever, as given in the *Clinical Medicine.*

"1st. Its existence as an endemic disease in Ireland, but occasionally taking an epidemic character.

"2nd. The existence of a general and peculiar character in each epidemic, subject, however, to modifications at different periods of the epidemic, and in different places, even at the same period of the disease. This had already been established by Cheyne and Barker.

"3rd. The contagious quality of all the forms of continued fever in this country; but especially the maculated form, the occurrence of which, however, seems to establish a greater immunity in the individual affected, from subsequent attacks than is observed in other varieties.

"4th. The necessity of avoiding a routine treatment, and the importance of the anticipative use of nutriment.

"5th. The doctrine, that fever in Ireland was to be attributed neither to miasmata nor to deficient food."

Varied and important as were Graves' contributions to medical science, yet his efforts were by no means confined to such subjects; for all the events of the time, and more especially for those which concerned the advance of civilization—for discovery—the struggles of a people for freedom, or the military undertakings of his own country, he showed a continued, but not an empty sympathy. Many important writings to which his name is not attached were contributed by him, as leading articles to the public press, all distinguished by a careful preparation and a singular knowledge of the history and topography, the political condition, and material resources of various countries. His history of the war in Affghanistan, contributed to the *University Magazine*, of which Dr. Stokes gives an analysis, is a remarkable example of the powers of investigation and arrangement that he brought to bear on all subjects.

It was in the autumn of 1852, he being then in his fifty-seventh year, that the symptoms of the malady, which was to prove fatal, first showed themselves; and in the following February he began to succumb to the disease, from which he died on the 20th March, 1853. Although at times his sufferings were great, yet he had many intervals of freedom from pain, and he then showed all his old cheerfulness and energy. To the very last he continued to take pleasure in hearing of any advance of knowledge that tended to ameliorate the condition of man, or to throw light on his relations to a future state. In illustration of this his biographer refers to the interest he took at this time in Layard's discoveries at Ninevah in connexion with the narratives of the Sacred History. We may be permitted to further refer, in illustration of the same undying zeal for the advance of knowledge, to his papers, published in our own pages at this period, viz., that, in our Number for August, 1852, on the "Use of Gutta Percha in Skin Diseases" in which he points out the many purposes to which a solution of this substance may be applied in the treatment of various skin affections; and records cases in which Dr. Stokes had, at his suggestion, used it with great success for the prevention of pitting in small-pox; a mode of treatment that has very recently been claimed as a new discovery, but the credit of which is wholly due to Graves. In November, again, but a few months before his death, he contributed

a paper on the "Nature and Treatment of Epilepsy"—a paper characteristic of his desire to test and make known the merits of all suggestions for the alleviation of human suffering.

In following Dr. Stokes through his sketch of the life and labours of Graves, we have been carried away further than we had at first intended; but it is difficult to resist the desire to delay with one who shows himself such a loving and zealous biographer, and a commentator so able to appreciate and unfold the vast learning, the deep thought, and the comprehensive genius of him who, more than any other, has served to raise the rank and reputation of the Irish School of Medicine.

Extended as our notice has been, we cannot pass on without inserting the following letter from Trousseau, himself the author of a great work on clinical medicine; and, if any apology to our readers be necessary, let it be found in the fact that, though the almost founder, and, certainly, for many years one of the principal conductors of this Journal, no memoir of Graves has hitherto appeared in its pages. The letter was addressed by Trousseau to the translator of Graves' *Clinical Medicine*, and appears in the preface to the French edition of that work:—

"For many years I have spoken of Graves in my Clinical Lectures; I recommend the perusal of his work; I entreat those of my pupils who understand English to consider it as their breviary; I say and repeat that, of all the practical works published in our time, I am acquainted with none more useful, more intellectual; and I have always regretted that the Clinical Lectures of the great Dublin practitioner had not been translated into our language.

"As Clinical Professor in the Faculty of Medicine of Paris, I have incessantly read and re-read the work of Graves; I have become inspired with it in my teaching; I have endeavoured to imitate it in the book I have myself published on the Clinique of the Hotel-Dieu; and even now, although I know almost by heart all that the Dublin Professor has written, I cannot refrain from perusing a book which never leaves my study.

"Graves is an erudite physician; while so rich in himself he borrows perpetually from the works of his contemporaries, and at every page brings under tribute the labours of German and French physicians. Although a clinical observer, he loves the accessory sciences; we see him frequently having recourse to physiology, in the domain of which he loves to wander; to chemistry, with which he is acquainted, which he estimates t its true value, and to which he accords a legitimate place. He often reminds me of the greatest clinical teacher of our day, Pierre Bretonneau, an able physiologist, a distinguished chemist, a learned botanist, an

eminent naturalist, who incessantly, in his lectures and conversation at the Hospital of Tours, found in all those accessory sciences, with which he was so conversant, those useful ideas and ingenious views, which he subsequently applied with unusual felicity to the study of our art.

"Shall I now say what are, in Graves' work, the most remarkable and most important lectures? To be just I ought to indicate all in succession; there is not one of them, in fact, which does not abound in practical deductions; there is not one which does not bear the impress of that admirable and powerful faculty of observation which distinguishes among all, the physician of the Meath Hospital. The lectures on scarlatina, paralysis, pulmonary affections, cough, headache, have acquired an European reputation, and the interest with which they inspire every attentive reader is assuredly their best panegyric.

"There are, however, two points to which it is important to call particular attention.

"Graves has devoted many lectures to typhus fever, which so cruelly decimates Ireland. It might be supposed, at first sight, that the study of this portion of his work is not of much importance to us French physicians, who fortunately have not to contend with the formidable malady in question; this is a mistake. All the precepts of the author upon the treatment of this pyrexia are so applicable to the severe forms of our typhoid fever, that we shall with the greatest advantage consult this remarkable work; moreover, the maxims relating to regimen have become the guide of the practitioners of all countries: it is they which now direct us in the treatment of putrid fever. And, nevertheless, when he inculcated the necessity of giving nourishment in long-continued pyrexias, the Dublin physician, single-handed, assailed an opinion which appeared to be justified by the practice of all ages; for low diet was then regarded as an indispensable condition in the treatment of fevers. Had he rendered no other service than that of completely reversing medical practice upon this point, Graves would, by that act alone, have acquired an indefeasible claim to our gratitude.

"On the other hand, I cannot sufficiently recommend the perusal of the lectures which treat of paralysis; they contain a complete doctrine, and this doctrine has decisively triumphed. The sympathetic paralyses of Whytt and Prochaska have now their place assigned in science, under the much more physiological name of reflex paralyses, and the Dublin Professor is the first who has studied with exactness their etiological conditions, as he is the first who has made known their pathogenic process. Anticipating by many years the admirable works of Marshall Hall, he has comprehended, he has seen that anomalous peripheric impressions may react upon any section of the medulla, and determine at a distance disturbances of movement or of sensibility; he has, in a word, created the class of peripheric or reflex paralyses, and he has

clearly established the relations existing between these paralyses and acute diseases. Unhappily these remarkable lectures have remained a sealed letter to the majority of French practitioners; but it is time to render to the physician of the Meath Hospital the justice which is due to him; it ought to be known that Graves is the creator of this new doctrine which has profoundly modified, within a few years, the pathology of the nervous system; it is right, in fine, to refer to its true author the suggestive theory of the paralyses and the convulsions of peripheric origin.

"You have then, sir, done a very useful work in publishing Graves Lectures. You have rendered a great service, if not to beginners,—who will, perhaps not find in them the elementary ideas which are necessary to them,—at least to physicians, who must understand the reasons of instinct and intelligence by which they ought to allow themselves to be guided in the difficult paths of practice; who are called upon to assist in the doubts, embarrassments, and perplexities which trouble the conscientious man when he is engaged in those obscure cases which so frequently present themselves in the wards of an hospital.

"Graves is often empirical. What true clinical observer can avoid being so? But he is so only in spite of himself. He seeks, he points out the reasons which determine him; he discusses them, and he conducts his pupil step by step from the theory, occasionally too ingenious, to the application, which is always useful, though often unexplained.

"Graves is a therapeutist full of resources. For the majority of French physicians his medications present something unusual, because the agents he employs are rather less used in France; but we learn in his lectures the medicine of our neighbours at the other side of the Channel—a medicine strange to us, as ours is to them. We learn in them the methods most relied upon in the United Kingdom, and the remedies to which our English colleagues give the preference.

"I freely confess that I had some difficulty in accepting, notwithstanding the imposing authority of Graves, what he states of the influence of certain remedies, such as mercurials, essence of turpentine, spirituous preparations, nitrate of silver, &c.; but the Dublin Professor speaks with so much conviction that I ventured to follow his precepts, and I must say that my early trials very soon encouraged me to adopt unreservedly what at first I accepted only with misgiving. There is not a day that I do not in my practice employ some of the modes of treatment which Graves excels in describing with the minuteness of the true practitioner, and not a day that I do not, from the bottom of my heart, thank the Dublin Physician for the information he has given me.

"Graves is, in my acceptation of the term, a perfect clinical teacher. An attentive observer, a profound philosopher, an ingenious artist, an able therapeutist, he commends to our admiration the art whose domain

he enlarges, and the practice which he renders more useful and more fertile.

"We shall, therefore, be all much indebted to you, my dear confrère, for having rendered familiar to us an author unfortunately too little known among us.

"A. Trousseau."

Graves was a Fellow of the King and Queen's College of Physicians; and was, subsequently, elected King's Professor of the Institutes of Medicine. He was chosen President of the College of Physicians in 1843 and 1844, and was elected a Fellow of the Royal Society in 1849. Besides these distinctions, he received the diploma of honorary or corresponding member from many of the medical societies of Europe.

The papers selected by Dr. Stokes for publication in the present volume are taken from those only of Graves' writings which bear on physiology and medicine. It is not intended that they should be taken as setting forth the state of physiology in our time, but, rather, as showing how the mind of a great physician dealt with physiology in its true relations to medicine. They are 32 in number, and do not include any of those already published in the volumes on clinical medicine. The earliest of them were first published in the *London Medical and Surgical Journal*, in 1834, and are taken from his lectures on physiology, as Professor of the Institutes of Medicine. Their titles are as follows:—"The Ubiquity of Life"—"The Position of Man in the Scale of Life"—"The Influence of Light"—"Phosphorescence"—"Effects of Temperature on Animal and Vegetable Life"—"Electricity in Relation to Plants and Animals"—"Distinctive Characters of Man"—"Faculties and Instincts of Man"—"Varieties of the Human Race"—"Laws of Periodicity"—"Chances of Life"—"Temperament and Appetite"—"General Principles of Dietetics." The remaining papers were principally published in the first and second series of this Journal, and some in the *London Medical Gazette*. Those on the anatomy of the hock joint in the horse, and on the vertebral column in certain cetaceæ, were published in the *Transactions of the Royal Irish Academy*, in 1830; and the essay on the comparative characters of the Great Salt Lake of North America and the Dead Sea appeared originally in the *Edinburgh Philosophical Journal* for 1851. In addition to those we have named, we find essays on other special topics in physiology, such as—

"On the Sense of Touch"—"On the Use of the Cochlea in the Organ of Hearing"—"On Latent Life and on Vital Crystallization"—"On Double and Single Vision"—"On the Laminated Structure of the Crystalline Lens"—"On Anomalies of Organization"—"On the Functions of the Lmyphatic System;" and, in the miscellaneous division, we find essays—"On the State of Medicine in European and Asiatic Turkey"—"On the Effects of Intoxication on Graminivorous and Carnivorous Animals"—"On the Birth-days of Living Authors"—"On Preventing Evaporation from Water-tanks in Hot Climates"—"On Some Affections of the Hair"—"On Some Peculiarities of the Skeletons in Hunchbacks"—"On the Supposed Want of the Sagittal Suture in Certain Tribes of Negroes"—"On the Progress and Contagion of Asiatic Cholera"—"On Liebeg's Theories of Animal Heat and of Disease."

The very enumeration of these papers is sufficient to prove the industry and perseverance of the author; and while they illustrate the physiology of the time at which they were written, they convey, at the same time, a vast amount of information, such as all practitioners of medicine ought to be familiar with, not only because of its bearings on the art they practise, but because it is such as is absolutely necessary for him who would seek to hold the position amongst educated men due to his profession. We hope they will be extensively read, and we are sure they will, both by the profession and by society at large. We would be especially anxious that they should be read beyond the limits of the profession; and we would urge all our readers to recommend their perusal to their friends, where they have the opportunity; for we are firmly convinced that the diffusion of such information is the best means of elevating our professional status, and, at the same time, of checking and counteracting the spread of the several forms of quackery that take such hold on weak and half-educated minds.

We tender our thanks to Dr. Stokes for the publication of these papers at this particular period, for we believe them calculated to do peculiar and special service by calling men's minds back to the study of the effects of vital actions, and of the modes in which the vital powers react under the influences of external agencies, for the recent developments of morphological anatomy, and of organic chemistry, have been so seductive as to monopolize, in a great measure, the attention of our schools, to the almost entire neglect of the equally, or even more, important subjects which are here discussed. It is true that subsequent researches have thrown

additional light on some of them—and in this none would rejoice more than Graves; but, though further development may have taken place, yet the great principles remain the same, and are immutable.

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*The Pathology and Treatment of Phlegmasia Dolens, as deduced from Clinical and Physiological Researches; being the Lettsomian Lectures on Midwifery, delivered before the Medical Society of London, during the Session* 1861–62. By F. W. Mackenzie, M.D., &c. London: J. Churchill, 1862. 8vo., pp. 131.

From the time of Mauriceau to that of Davis and Lee successive authors have attempted to elucidate the pathology of phlegmasia dolens, nevertheless its proximate cause has remained, up to the present period, a matter of uncertainty. The theories of its etiology enumerated by various authors, down to Davis, were merely hypothetical; he introduced the phlebitic theory; and, up to the present, this has been the most popular and generally received one. The phlebitic theory, as the author of these admirable lectures observes, "rests upon far more valid and certain grounds than any other that has hitherto been put forward," and is, therefore, the most generally received. "But the question," he continues "still remains—how far does the existence of crural phlebitis, as an assured anatomical fact, adequately account for all the very varied phenomena of the disease? In other words—how far is phlebitis truly the proximate cause of the disease, or merely an important integral constituent of it? not, however, the *cause* of the other lesions common to it, but, like them, a parallel consequence of some more general and diffusive agency."

The above may be taken as the theme of the lectures now under consideration—namely, to unravel the question whether obstructive phlebitis be the *result* of some cause, and not the *essence* of phlegmasia dolens; in other words—whether it be not rather a symptom than a disease *per se*.

The doubtful pathology of phlegmasia dolens, which was based on anatomical investigations merely, has long occupied the author's mind; for, so far back as 1853 he brought forward some new views concerning the etiology of the disease, in a paper read before the Medico-Chirurgical Society. These views, the result of

repeated experiments upon animals, were purely physiological, unconnected with clinical or pathological observations, and therefore, to a great extent, imperfect as illustrating the nature of the affection. The doctrines arrived at were adduced from the effects observed on applying ligatures to veins, on irritating their lining membranes by chemical and mechanical agents, and on compressing their walls between metallic plates; and the conclusions he then came to may be condensed as follows:—Inflammation of neither the iliac or femoral vein could account for, or originate, phlegmasia dolens. Local causes—as injury or inflammation of these vessels—cannot produce the extensive obstruction of the veins met with in this disease. Irritation or obstruction of these veins will only give rise to obstruction of the same "to an extent commensurate with that of the irritation which may have been excited within them

"Extensive irritation of the lining membrane of veins, giving rise to obstruction, and all the phenomena of phlebitis, may be *excited by the presence of various unhealthy matters in the blood, circulating with this fluid, and determined upon particular portions of the venous system.*" Lastly—"The origin of the disease" (phlegmasia dolens) "is, therefore, to be sought for rather in a vitiation of the circulating fluid than in any local injury, inflammation, or disease of the veins."

Such, then, having been the author's conclusions regarding the etiology of this disease in 1853, when he gave priority to physiological researches—he now proceeds to arrive at its proximate cause from *clinical facts*, in connexion with those furnished by physiological investigation; and thus to vindicate himself "against an imputation which he conceived to have been unjustly thrown out against his first paper, viz., that he had endeavoured to deduce a theory of the disease from experiments upon the lower animals, among whom it was unknown."

Dr. Mackenzie divides his subject into three parts, each forming a lecture. The first consists of the pathological history of phlegmasia dolens; the second diplays the physiological researches into the origin of phlebitis, as connected with the pathology of phlegmasia dolens; and the last consists of the application of pathological and physiological inferences to the prevention and cure of the disease.

In the first lecture is given a succinct review of the theories of the causation of phlegmasia dolens from the commencement of the last centurv to the present period. It is here remarked, *in limine*,

that the earliest theory, viz., that of metastasis, though now untenable, "yet rests upon a certain foundation of truth," as he endeavours to show in the sequel, "and indicates a fact of some practical importance, which has been established by more recent researches, that the causes of lochial and lacteal suppressions or disturbances, whatever they may be, may, under certain circumstances, become the effective causes of phlegmasia dolens. In order to proceed with his investigation Dr. Mackenzie defines the essential characters of the disease, after Callisen, viz., "tumor elasticus, albescens, renitens, calidus, dolens, foveam impressi digiti haud retinens," and concludes, from its local manifestations, that it is characterized by two conditions—first, a persistent and peculiar swelling of the affected limb, not depending upon simple œdema, but possessing a degree of tension, heat, firmness, and elasticity, which is not common to ordinary œdema; and, second, that it is characterized by an impairment of nervous and muscular functions of the limb, as indicated by pain, tenderness, and loss of motor power. The question then is, can pure uncomplicated crural phlebitis give rise to all these lesions, "involving disturbances in the sensorial, motorial, and secreting functions of the limb."? He takes, then, the phlebitis of surgical writers—especially those cases arranged by Dr. Ferguson, in his essay upon puerperal fever—and shows the great difference between them, as compared with those examples of the disease described by Callisen, or, of *pure uncomplicated phlebitis*, as compared with phlegmasia dolens. Therefore, simple phlebitis, so far, cannot be looked upon as the *fons et origo* of phlegmasia dolens. Thus he has to look for another cause of origin than local venous inflammation, and he fixes upon that of *febrile disturbance*, by whatever cause produced, and, as a consequence, *altered secretion*. For example—in puerpera, febrile disturbances, originated in various ways, may give rise to altered lochia, so as to render it a poisonous secretion; and, from the subsequent absorption of the secretions, thus altered, toxemia would be induced; and, though a determination upon a particular portion of the venous system is manifest, as one of the results of this blood-poisoning, nevertheless, there is general constitutional disease—the result, as well as the local phlebitis, of blood-poisoning.

Concerning the occurrence of phlegmasia dolens in puerpera, he observes, that convalescents after the first and second labours are most obnoxious to that disease, because most obnoxious to febrile action; inasmuch as in these cases the parturient efforts are more protracted,

and they are more liable to suffer from the effects of pressure and distension than pluripara. But febrile action may originate from other causes; and, once occurring, may give rise to blood-poisoning.

It may be asked, why is it in these cases, then—granting that severe blood-poisoning is the proximate course of the disorder—that it is one or other of the lower extremities which exhibits the local phenomena, seldom both together, and the left lower extremity more frequently than the right? Why should not the lesions be more general? If we understand our author aright, the side of the phlebitis corresponds with that of the attachment of the placenta—as was the opinion long since expressed—but that the phlebitis is not because of simple venous inflammation arising from irritation in that neighbourhood, it is still from venous absorption there, of altered secretion, and consequent toxemia. The febrile action is the first step; altered secretions the second; venous absorptions the third; then follows general blood-poisoning, with coagulation, obstruction, and all the symptoms of phlegmasia dolens as the result, at the site or side of the absorption. It would almost appear as if the poisonous secretion acted with *more* local virulence at the seat of the absorption. It is a curious fact that the investigations of Dr. Carrière, as to the greater frequency of the placental attachment upon the left side, corresponds exactly with the author's statistics as to the greater frequency of the occurrence of left in comparison to right phlegmasia dolens.

Upon analyzing a large group of cases of phlegmasia dolens, as to the period after delivery at which the disease occurs, it was found that no particular day appeared to be selected; nearly all the cases, however, occurred within 21 days after delivery; and this circumstance tends also to strengthen the author's theory of febrile action; inasmuch as it is within these 21 days that "those great puerperal actions are inaugurated which powerfully tend to modify or deteriorate the general condition of this fluid"—(the lochia)—" such, for instance, as the febrile reaction consequent upon labour, and the establishment of the milk—the modification of the lochial secretion thereby or otherwise induced—the effects of injury or contusions of the soft parts, and the reception of effete organic matter into the circulation, consequent upon febrile action and the involutions or disintegrations of the uterus. These and other circumstances peculiar to the puerperal period, tend in an especial manner to modify the conditions of the blood, and, as such, to

predispose to various local and constitutional diseases." But these puerperal actions constitute rather the predisposing than the exciting causes of the attack; and the latter are sought for in the various disturbing influences tending to febrile and inflammatory actions of various kinds, superadded to, and coöperating with them. In effect, the disease may supervene upon any circumstance, local or constitutional, which, by causing febrile action, might give rise to altered secretions. Thus it follows after puerperal fever, from exposure to cold, dietetic errors, the operation of epidemic influences, tubercular disease, and *quickly* upon severe and protracted labours. These are some of the exciting causes, while the puerperal state may be looked upon as the predisposing. "Some febrile action, variously produced, would thus seem to constitute the bridge or connecting link between the act of parturition and the final development of the disease; and, admitting this position to be valid, then it follows that some abnormal or morbific condition of the blood must have existed either antecedently to, or contemporaneously with, the commencement of the disease." These being the author's views of the causes of the disease, he proceeds to the consideration of its symptomatology; and, prior to so doing, he separates phlegmasia dolens into two groups—the simple and complicated forms of the disease.

Simple phlegmasia dolens, according to the author, is almost free from danger, and occurs under four circumstances—during convalescence from puerperal fever; in connexion with large losses of blood, either during or after labour, or with antecedent anemia; exposure to cold during convalescence; or from febrile movement consequent upon some error of diet.

The complicated form of the disease, occurs during the progress of puerperal fever; with pelvic inflammation or suppuration; with malignant disease of the uterus or pelvic organs; with constitutional disorders; zymotic fevers, or inflammatory diseases of important organs.

Having stated the grounds upon which he had formed his views, from clinical evidence, the author proceeds to show how he arrived at similar conclusions from physiological research. His experiments, therefore, are rather fully detailed. These have been already published; so that we shall only give a slight glance at them here. The question he had to determine by these experiments was—"how far crural phlebitis, in a pure and uncomplicated form," could "give rise to the very complex phenomena of the disease; or, how far

phlebitis itself" could "be traced up to, and deduced from, some more general and diffused morbific agency capable of producing the various other local and general symptoms which are coördinately met with." Bearing in mind that the symptoms of phlegmasia dolens are not those which depend altogether upon venous obstructions—"thus, the character of the swelling is not simple œdema, but it is tense, hot, and elastic. The condition of the nerves is one of exalted sensibility, often amounting to the most agonizing pain. The motor powers of the limb are impaired to a degree which, in some instances, verges upon positive paralysis; and, in addition to the tension and obstruction of the chief veins, there is often redness and tenderness in the course of the lymphatics and principal cutaneous nerves."

The first set of experiments was to try what might be the effects of crural phlebitis in producing the symptoms of phlegmasia dolens. Three series of experiments upon dogs were had recourse to for this purpose, viz.: ligaturing the iliac veins; irritating the lining membranes of these veins by chemical and mechanical means; and, lastly, by including the same vessels between metallic compresses. The inevitable deductions from this first series of experiments were:—"That the symptoms of phlegmasia dolens are not producible by inflammation and obstruction of the crural veins alone, however rapidly or extensively induced. There is an absence of constitutional fever or disturbance; the swelling of the limb is neither elastic nor abiding, but simply œdematous; and there is no impairment of either its sensory or motor functions. With such facts, clearly demonstrated," continues Dr. Mackenzie, "there is, I submit, no other conclusion than that the affection of the veins is not the primary or essential lesion, or the proximate cause of the complaint."

So far our author had proved his point; but there remained still a very important problem to be solved, viz.:—What were the specific causes or condition that, while the veins are both obstructed and inflamed thereby, the motor and secreting organs of the extremity are also disturbed. To elucidate this point another series of experiments were adopted. In these the general mass of the blood was vitiated by means of a solution of lactic acid, introduced into the circulation through the veins. By this means our author produced, not alone obstructive phlebitis, but all the phenomena of phlegmasia dolens superadded thereto. The following are Dr. Mackenzie's conclusions:—"That phlebitis, occurring as a local disease, and

from the operation of a local cause, is never associated with the phenomena of phlegmasia dolens, nor, under any circumstances, can give rise to it; but that when it arises from, or in connexion with, constitutional causes, or from local causes calculated simultaneously to infect the blood generally, then, that the lesion of the veins is very generally accompanied with the symptoms of phlegmasia dolens. The effective cause, therefore, of the phlebitis, as of the crural affection, is the constitutional condition out of which both have arisen; and phlebitis stands in no other relation to the etiology of the disease than in that of intensifying the local actions going on in the affected extremity, by concentrating upon the general or diathetic conditions which may have given rise to it. Thus regarded, however, phlebitis plays a prominent, although subordinate, part in the phenomena of the disease. It intensifies the morbid actions going on in the affected limb; but, at the same time, does not create them; it is strictly a secondary effect, and, like the other lesions of the extremity, is a common consequence of the same constitutional or morbific causes which may be in operation, and upon which they both mutually depend. It thus appears to me, that the conclusions deducible from physiological research essentially harmonize with those drawn from clinical experience, and so far—inasmuch as they mutually affirm and support each and other, point to the blood origin of the disease—they furnish a strong argument in favour of the correctness of the views I have ventured to submit to you in relation to its nature and pathology."

Presuming that his theory is correct as to the origin of phlegmasia dolens, Dr. Mackenzie proceeds to apply his inferences to the prevention and cure of this disease—with the discussion of which question he closes his course of lectures.

Preliminary to the consideration of the treatment of phlegmasia dolens, Dr. Mackenzie, as may be inferred from his tenets as to its origin, insists upon the necessity of bearing in mind that the disease is not to be regarded as a local affection, "but rather as the crisis of some febrile or constitutional movement centered in the blood, and having its origin in various diathetic conditions, the precise nature of which, in any individual case, can only be determined from a careful consideration of the various circumstances under which it may have arisen;" that is, from the products of simple inflammatory action or from poisonous material directly absorbed from the maternal passages, or from a combination of both these causing a vitiation of the circulating fluid.

Thus premising, he takes the two leading types of the disease—the sthenic and the asthenic—and proceeds to detail the treatment of each.

Assuming Dr. Mackenzie's pathological ideas are correct in the treatment of the sthenic form, attention is directed to that of the *constitutional* and *local*. The constitutional treatment (considering a septic condition of the blood, the "fons et origo mali"), is resolved into that of depuration, correction, and reparation. To carry out the first, viz., depuration—early and active emetics; active, and, subsequently, continued purgation, with a view of obtaining free bilious evacuations; and the exhibition of diuretics and diaphoretics for the due maintenance of the renal and cutaneous secretions.

To carry out the second indication, or the corrective treatment—the alkaline salts, viz., those of potash and ammonia, especially the latter, with the view of either diminishing or maintaining, in a state of fluidity, the excess of fibrin in the blood. And here Dr. Mackenzie observes, that the acetate of ammonia which he had previously recommended as a sudorific, aids also in carrying out this indication, more especially if the hydrochlorate be used in addition. He also orders the use of a full dose of bitartrate of potash in warm water, every morning, which, while it maintains a free action of the bowels, in accordance with the first indication, assists also in carrying out the second or corrective line of treatment. With respect to the third indication of the constitutional treatment, or the reparative—hygienic and dietetic measures are chiefly to be had recourse to; bearing in mind that throughout the entire convalescence a moderately active state of the excretory functions is to be maintained. Here he recommends iodine in addition to the mildest depurants; the former, as iodide of potassium in strong decoction of bark and sarsaparilla. He also recommends the exhibition of the mineral acids in connexion with bark or quinine.

With regard to the local treatment of phlegmasia dolens, there is nothing mentioned deserving of particular attention, with the exception of a liniment composed of veratria, tincture of aconite, and soap liniment; which, according to Dr. Mackenzie, is most efficacious in relieving the diffused neuralgic pain, frequently so distressing.

In considering the treatment of the asthenic type of this disease, the three indications for action present themselves, as in the sthenic form; but Dr. Mackenzie considers the asthenic type as most

frequently connected with, or arising from, septic causes, and the sthenic with inflammatory; in the former, blood vitiation exists alone, uncomplicated with inflammatory action, and that therefore, the depurative treatment is by far the most important and the most reliable.

"No apparent amount of vital prostration," says our author, "is inconsistent with the early and systematic resort to this practice," viz., "the regular and systematic elimination, or weeding out from the blood, through the agency of the more important excretory organs, the morbid products which are in the circulation, and which essentially constitute the proximate cause of the disease." In this form of phlegmasia Dr. M. also commences with an emetic, but of a stimulating character, being a combination of carbonate of ammonia and ipecacuanha in water, every 15 minutes, till the effect is produced. As a purgative, he combines calomel, or grey powder, with jalopine, "in varying proportions," and administers it every morning—the strength being, at the same time, maintained by wine, cordials, and nourishments; and "whilst the purgative should form the first medical proceeding of the day, the last may be the administration of a suitable opiate or sedative at bed time."

The corrective treatment consists in the administration of antiseptics, of which class of medicines he considers the mineral acids the most valuable, and gives the preference to the hydrochloric. Dr. Mackenzie directs an ounce of the dilute hydrochloric in a quart of barley or flour water, sweetened with syrup of ginger, and flavoured with lemon peel—to be taken through the day. To this he occasionally adds an ounce of chlorate of potash, to recruit the saline constituents of the blood, and a little sulphate of magnesia, to cause continuous depurative action.

In connexion with this line of treatment Dr. Mackenzie observes:—"I had reason to believe, for some time, that this practice was strictly original, as it had been deduced from original observations; for, although I was aware that the mineral acids had been given in septic or malignant fevers with the view of correcting putrescency, yet I was not aware that they had been given to the extent and in the manner I have now proposed, throughout the whole course of such fevers, both with a view of *preventing*, as well as *correcting* malignancy. However, in the course of some desultory reading, I found that very much the same plan had been recommended, and apparently empirically, by one Professor Reich, of Erlangen, towards the close of the last century, and that it was

reported upon so favourably by a commission appointed at Berlin to investigate its therapeutical value in the treatment of fevers, that the author was awarded a pension by the King of Prussia, besides having other professional advantages ceded to him. Further, I found that a Mr. Braithwaite had communicated to the *Philosophical Magazine* a paper, in which a similar practice was recommended in scarlet fever; and the effect of it is said to have been so successful that not only was every case cured, but the tendency to secondary dropsy and glandular disease was entirely averted by it. I must, therefore, of course, renounce all claim to priority in the employment of this practice; but I am glad to be able to refer to such strong corroborative testimony in its favour."

The reparative treatment in this form of the disease, the consideration of which terminates the Lettsomian course of lectures, points also to the renovation of the blood and the restoration of the *vis vitæ*. Here, again, hygienic and dietetic measures constitute the chief desiderata; stimulants are recommended, and quinine, in combination with the mineral acids, advised.

We have given our readers rather a full insight into the contents of this short volume; nor do we deem any apology necessary for so doing, when we take into consideration the importance of the subject upon which it treats, and the soundness of the doctrines which it inculcates. Dr. Mackenzie has, in our opinion, removed the etiology of phlegmasia dolens from the regions of doubt and uncertainty, and has established a sure foundation upon which to act in respect to treatment. We have seldom read a book with more pleasure, and certainly have not, for a considerable time, derived such advantage, as from its perusal. In these days of scribbling, when every one considers it essential to publish, and, for lack of matter and experience, dresses up some old ideas with fresh costumes to pass as new, it is delightful to meet a volume like the present, really deserving the credit of originality. Dr. Mackenzie has handled his subject most ably and philosophically; his experiments are very satisfactory to our mind, and his deductions strictly logical. In conclusion, we would strongly recommend this book to the attention of the profession.

*Hemorrhoids and Prolapsus of the Rectum: their Pathology and Treatment.* By HENRY SMITH, F.R.C.S., England; Surgeon to King's College Hospital, London. Third Edition. 12mo., pp. 108.

THE first two editions of this valuable work were received well by the profession. It embraced within its title most important contents—some of those affections of the rectum which have been most mismanaged, and which are daily the subject of complaint by many sufferers. We always hail with great satisfaction the efforts of the enlightened and educated surgeon to grasp from the hands of the impostor and the quack those special diseases which, from their very nature, demand that perfect reliance may be placed in the accuracy and truthfulness of the person who treats them, but which from the privacy surrounding them become frequently a fruitful source of peculation, emolument, and fortune to unprincipled persons. But here the mischief even does not cease. By the ignorant mountebank, disease, which has been trifling at first, is permitted to take its course, or, by improper applications, is aggravated in its nature, until it assumes altogether a new character; laying, most likely, the foundation for disease which will, in the end, compel the sufferer to seek competent advice, after having passed through much loathsome annoyance, pain, suffering, and disgust of mind. We have not said one word too much. We well know the flourishing trade that is carried on in this way by unprincipled persons; and it is our duty to show up this imposture and quackery.

The public owe a debt of gratitude to such men as Mr. Smith, who, after years of practical training, direct their minds specially to some peculiar class of those diseases which, to say the least, embitter life, detract from its comforts—sometimes rendering it very miserable, sometimes threatening its duration.

To the profession Mr. Henry Smith is well known as an able surgeon, an accomplished operator. To his pen we are indebted for several valuable papers on resections of bones and joints, and for contributions to other departments of surgery. Not long since we spoke in high terms of his practical work on strictures of the urethra; and not long ago we noticed the first edition of the book which has called forth these observations; and now, again, we cannot but praise this, the third edition, considerably enlarged. Truly we may record the accuracy of the author's assertion in the preface:—

"In preparing this new edition I have not confined myself to an enquiry into the efficiency of one particular remedy, but have taken the opportunity to consider, at some length, the pathology and general treatment of the diseases in question."

The cases which have been adduced to illustrate the different modes of treatment are admirably described, and are, we can assuredly say, truthful pictures, drawn from bed-side practice—the most valuable of all. The very practical way in which each subject has been handled proves at once to the hospital surgeon how diligently the author has been engaged in the study of those diseases treated, the best guarantee to the public for security. We have no hesitation in recommending this volume to the student, and to the surgeon likewise; profitable information rests on every page in it.

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*On Long, Short, and Weak Sight, and their Treatment, by the scientific use of Spectacles.* By J. SOELBERG WELLS, M.R.C.S., Eng.; M.D., Edin.

THIS is a subject which ought to interest every one. There are very few who have not either some defect in vision themselves, or some friend who has. How often do we hear a gentleman who has begun to leave off reading the small print in his newspaper, and holds it at arms' length from his eyes, say—"I think I must get a pair of spectacles, but I am afraid of making my sight worse." After much consideration he, at last, turns into an optician's, and gets a pair of "nose nippers," which he lets hang gracefully in front of his waistcoat. The glasses are called "clearers." He tells his friends that he has got the very weakest, as he only wants them for reading small print. After a short time he finds he still has to hold his paper at a distance, and slant it so as to get a strong light on it. He again visits the optician, who supplies him with a higher number. For the first two or three days he feels an unpleasant weight about his eyes; he takes off his glasses frequently to rub his forehead, in which he feels an uneasiness and sometimes even pain. However this goes off, and he is very well pleased with the improvement in reading. Some fine day he goes out in a hurry and forgets his glasses. In the course of the day he goes to his club and takes up the papers; he passes over the small print as he has left his glasses at home, and turns to the

large; but to his surprise he finds that he cannot read it as well as he used to read the small print before he began to use his specs. He concludes that he has begun the use of spectacles too soon, and has thus injured his sight. The fact being, that in the first, he got too weak a glass, in the second, much too strong. In Germany the choice of glasses is not left to the optician. The medical attendant ascertains whether the eye be healthy or otherwise. Examines the amount of the defect in vision, and then prescribes the proper glass to remedy the defect. We have given the above example of the evils of a hap-hazard choice of glasses in long sight, or old sight, as the most familiar; but the evils of such a choice, in eyes affected with short or near sight, are much greater. Many such eyes have been destroyed by the injudicious selection of glasses.

Mr. Wells' book, which we have read with much pleasure, would have supplied the practitioners with an excellent guide, had the author been a little more careful in transcribing the figures in the formulæ. Out of five of these three are incorrect. The views of Graefe, Donders, &c., are very clearly given and compared with each other. The object of the book is best described in the author's own words, in his preface, and we must commend the author for his prudence in avoiding complicated calculations:—

"I have endeavoured, in these pages, to lay before the reader, in an easy and practical form, the modern theories of the affections, of the accommodation and refraction of the eye, so as to enable him at once to grasp the most salient and important points in the symptoms, diagnosis, and treatment of these diseases. I have purposely abstained from mathematical calculations, and have confined myself to such simple formulæ as I have found most serviceable and ready in practice."

The book is divided into eight chapters. The first contains an account of some of the various theories on the accommodation of the eye. The second commences with a definition of the term range of accommodation; followed by a description of some of the methods employed for ascertaining the measurement or extent of this range, and concludes with a division of eyes, according to these measurements, into normal, myopic, and hypermetropic. The six other chapters are devoted to the consideration of these conditions of the eye, their causes, and treatment by the use of glasses.

"By the term Accommodation, is meant the power which every normal eye possesses of adjusting itself almost imperceptibly and

unconsciously to different distances." It has long been a keenly-debated question in what the changes of accommodation of the eye consists. Some of the various opinions the author gives, and compares them in a very lucid manner with the opinion of Graefe, which is now generally held to be the correct one—namely, that the ciliary muscle is the active agent. Cramer, Donders, Helmholz, Müller, and others, considered that the iris plays a more or less important part in the mechanism of accommodation. The question was set at rest by a case which occurred in Professor Von Graefe's Clinique, in 1859. The case is shortly this:—Whilst Professor von Graefe was abscising a prolapse of the iris, the patient made a sudden violent movement with his head which the assistant could not check; the iris was somewhat dragged, and a dialysis occurred at the opposite side. The portion of iris still lying between the lips of the wound was drawn gradually out until the dialysis was complete. The whole iris was thus removed. The slight effusion of blood soon disappeared from the anterior chamber. Ten days after the operation, the cornea had also regained its transparency. The state of vision in this eye was as perfect as the other normal eye. He could count fingers at 150 feet, and read No. 1 of Jägers, *i.e.*, the smallest print, at eight inches. The power of accommodation was most accurately and severely tested, and it was found that in spite of the total absence of the iris, his power of accommodation was quite normal.

The range of accommodation is defined thus:—"The distance between the furthest and nearest point of distinct vision, is called the territory, or range of accommodation. When the eye has assumed its highest state of refraction, it is accommodated for its nearest point of distinct vision; when its state of refraction is, on the other hand, relaxed to the utmost, it is adjusted for its furthest point." The first simple formula our author gives us is from Donders:—"The range of accommodation A, is given by the focal distance ($a$) of an ideal lens, which, placed upon the anterior surface of the crystalline lens, would afford, to rays emanating from the near point, a direction as if they came from the far point. We must suppose this lens a meniscus, placed upon the anterior surface of the crystalline, because the accommodation depends almost exclusively upon a change in the convexity of the anterior surface of the lens." Our author then illustrates this by the formula $\frac{1}{p}-\frac{1}{r}=\frac{1}{a}$ and $A=\frac{1}{a}$. He calls $r$, the far point; $p$, the

near point; ∞, infinite distance; ′, foot; ″, inch; ‴, line. Having thus settled his figures he goes off full sail:—"Normal eyes, which can see from an infinite distance up to 4″ from the anterior surface of the crystalline lens, have their far point ($r$) at an infinite distance ($\infty$), their near point at 5″;" we should have said 4.″ In order to find the range of accommodation of such an eye, we apply the formula $A=\frac{1}{p}-\frac{1}{r}$. In our case $r=\infty$, $p=5''$; therefore, $A=\frac{1}{4}-\frac{1}{\infty}=\frac{1}{5}''$. We humbly submit that if our author had used the old sign for infinity $\frac{1}{0}$ he would find it more serviceable and ready in practice. In Graefe's Archiv. the formula stands thus, $A=\frac{1}{4}-\frac{1}{\infty}=\frac{1}{4}$. He then gives Graefe's method for treating the range of accommodation. We shall here only mention that a convex lens is used to ascertain the far and near point. Here the same formula is employed. In the first example, a myopic eye, we find that (with convex 6) $r'=5''$, $p=3''$. The eye is consequently myopic, for it is not adjusted for the normal far point (6″), but for a nearer one, the rays from which impinge in a divergent direction upon the eye, $A=\frac{1}{3}-\frac{1}{5}=7\frac{1}{2}''$.[a] Of course our author having found these formulæ "most serviceable and ready in practice," we must take for granted they are really useful to him; but $7\frac{1}{2}$ seems to us to be a great deal for so little to be equal to. We may say the same of the formula for the hypermetropic eye. "$A=\frac{1}{3}-\frac{1}{8}=4\frac{4}{5}$."[b] Such errors seem very trivial when corrected, but to ordinary readers are a source of great confusion and perplexity.

Chapter III. contains a very interesting description of myopia, or near sight. This chapter and those following it are well worthy of being read. "In myopia the refracting power of the eye is increased, or the optic axis too long, so the parallel rays (emanating from distant objects), or even not sufficiently divergent rays, are brought to a focus before the retina." . . . "In the short-sighted eye, therefore, only such rays as come from a finite distance, and impinge in a sufficiently divergent direction upon the eye, are united upon the retina."

Short sight is often hereditary, often acquired in early life. An

[a] $A=\frac{1}{3}-\frac{1}{5}=\frac{1}{7\frac{1}{2}}$.

[b] $A=\frac{1}{3}-\frac{1}{8}=\frac{1}{4\frac{4}{5}}$.

explanation of the latter is put forward by the author in the case of persons employed at watchmaking, needle-work, &c.:—"Persons thus employed continually accommodate for a very near point, their lens has, therefore, constantly, to assume a more convex form; and after a time it may not be able quite to regain its original form, even when the necessity for adjusting itself for near objects has ceased. This occurs more frequently when the lens naturally possesses but a slight degree of elasticity; for, after it has been for a length of time accommodated for near objects, it gradually loses the power (like a bad watch-spring) of springing back to its original form—it remains too convex even when the pressure upon its periphery ceases." Lengthening of the eyeball is also given as a cause of short sight, the most common cause of which, is the disease known as sclerotico-choroiditis posterior. Graefe considers that in every case in which the myopia is considerable posterior sclerotico-choroiditis is present.

The ophthalmoscopic examination of the myopic eye is very interesting. For the description we must refer the reader to Mr. Wells' book; but we extract the following remarks on the prognosis:—

"It is of great consequence accurately to determine the amount of the myopia, so that we may hereafter be able at once to judge whether it has remained stationary or has progressed. In the most favourable cases the myopia remains stationary at the adult age; later in life it may even decrease somewhat, but generally this is not the case; and the popular idea that myopia decreases in old age is erroneous. This error is due to the fact that it was thought possible to determine the degree of myopia by the position of the near point; and, partly, also by the fact, that short-sighted people can see better at a distance when they get older on account of the increasing diminution in the size of the pupil. There is nothing to be feared from a slight stationary myopia; far different is it, however, if it be progressive, for it is then always a source of danger to the eye."

Donders considers every myopia progressive during youth. He gives many cautions to be observed at this time. Everything that may cause a determination of blood to the eye, working with the head bent forward, &c. A very interesting description of "Myopia in Distans," as described by Graefe, follows, which is too long for us to give in full. The patient could see distinctly as far as six feet, as if his eyes were normal; beyond that distance, namely, at ten

feet, he could not discern even the outlines of a picture. A strong concave glass quite corrected the defect in vision. Several theories have been started to account for this phenomenon. The affection is very rare:—

"The degree of myopia is easily determined according to Donders' method. If, for instance, a myopic person can read No. 1 of Jägar up to a distance of 10 inches, his far point lies at 10 inches, and his myopia $=\frac{1}{10}$; for, with a concave glass of 10-inch focus, he would be able to unite parallel rays upon the retina. For, does not the glass render parallel rays as divergent as if they came from a distance of 10 inches before the eye?

"But although, theoretically, a concave glass of 10-inch focus should be the proper one, we find in practice that it would be too strong. This is due to the convergence of the optic axis; for this prevents the eye from accommodating itself for its far point—the latter is only attainable when we look at distant objects with parallel axis. We should find that our patient would require concave glasses of 12 or 13 inches focus.

"It is still, however, a much debated question whether short-sighted persons should be allowed glasses for reading, writing, &c. Donders strongly recommends it for the following reasons:—

"1. Because strong convergence of the optic axis is necessarily paired with tension of the accommodation. . . .

"2. On account of the habit which short-sighted persons have of bending their head forwards during reading or writing. This must cause an increased flow of blood to the eye, and an increased tension within the eye itself. . . .

"The greater the range of accommodation the less harm will spectacles do, and *vice versâ*.

"Whilst these forms of myopia may be furnished with spectacles for near objects, it is very dangerous to permit their use in patients whose range of accommodation is very limited, and who suffer from such an amount of amblyopia that they cannot read No. 4 or 5 of Jäger, even with the most accurately chosen glasses. Such patients will bring the object very close to the eye in order to obtain large retinal images, the accommodation will be greatly strained, the intra ocular tension be increased, and great mischief be sure to ensue. If there be much amblyopia, spectacles should not be permitted at all for near objects."

Chapter IV. is on insufficiency of the recti interni muscles as a cause of defective vision. We could not do justice to this chapter by giving short extracts from it. It must be read as a whole. Double vision and its treatment by prismatic glasses is very well

described, and the advantages of operation put in a clear light. We are glad to see that Mr. Wells is now publishing a series of papers in the *Times and Gazette* on strabismus.

Chapter V. is on sclerotico-choroiditis. This disease, of which little, if anything, was known before the ophthalmoscope came into use, is the cause of many of the unmanageable cases of near sight. The usual position of the inflammation is around the entrance of the optic nerve. It appears like a crescent round the optic disc or blind spot. In this case vision is only impaired, but the same process may go on in the region of the macula lutea.

"Little white patches appear, which increase in size, and coalesce, giving the whole an appearance of alternate white and dark reticulated spaces, the white spots being due to the sclerotic shining through the atrophied stroma and pigment layer of the choroid. . . . . The occurrence of the disease at the macula lutea causes generally great impairment of vision, and the patients then also complain of the constant appearance of one or more central fixed black spots (scotomata)."

The complications of this disease are very serious. Vitreous opacities, pigmentation of the retina, detachment of the retina, opacity at the posterior pole of the lens, occur in the later stages of the disease—"Cataracta accreta and atrophy of the globe may close the scene."

Chapter VI. is on old sight or presbyopia. The formulæ are very clear, and can be used by any one. Our author says:—

"Let us, with Donders, consider presbyopia, to begin when the near point is removed further than eight inches from the eye.

"The degree of presbyopia may, according to Donders, be easily found thus:—If p. $>8''=8+n$, presbyopia Pr.$=\frac{1}{8+n}-\frac{1}{8}$.

"This simply means that we are to deduct the near point ($8''$), at which we consider the presbyopia to commence, from the presbyopic near point. If, for instance, the latter lies at $12''$, it would be $\frac{1}{12}-\frac{1}{8}=-\frac{1}{24}$. Again, if it lies at $16''$, it is $\frac{1}{16}-\frac{1}{8}=-\frac{1}{16}$. Pr. $=\frac{1}{16}$. We have, at the same time, found the number of the convex glass, which would bring the near point back again to 8 inches. In the first case it would be convex 24, in the last convex 16. . . .

"There can be no question as to the advisability and necessity of affording far-sighted persons the use of spectacles. They should be

furnished with them as soon as they are in the slightest degree annoyed or inconvenienced by the presbyopia. Some medical men think that presbyopic patients should do without spectacles as long as possible, for fear the eye should even, at an early period, get so used to them as soon to find them indispensable. This is, however, an error, for if such persons are permitted to work without glasses, we observe that the presbyopia soon rapidly increases."

Chapter VII. is on hypermetropia. The author explains:—"By hypermetropia is meant that peculiar condition of the eye in which the refractive power of the eye is too low, or the optic axis (the antero-posterior axis) too short;" and he considers hypermetropia to be often the cause of asthenopia and convergent strabismus.

"The refractive power of the eye is so low, or its optic axis so short, that when the eye is in a state of rest, parallel rays are not united upon the retina but behind it, and only convergent rays are brought to a focus upon the latter.

"It was, indeed, a great boon when Donders discovered that most of the cases of asthenopia depend upon hypermetropia, and might, therefore, be permanently cured by the proper use of convex glasses.

"In these cases of asthenopia, dependent upon hypermetropia, we sometimes find with the ophthalmoscope that the choroid and retina are somewhat congested. And I have known patients, in whom this was the case, strongly advised to abstain from all work, and particularly to eschew the use of spectacles. . . . The congestion is in fact owing to the overstraining of the accommodative apparatus, and will disappear as soon as the necessity for this over-exertion is removed by the neutralization of the hypermetropia through convex glasses.

"I must therefore strongly urge the necessity of the hypermetropic person wearing glasses *always*, for distant as well as for near objects."

Chapter VIII. treats of paralysis, spasm, and atony of the ciliary muscle, &c. Into the particulars of this chapter we have not space to enter. We perfectly agree with the author in his conclusion:—

"That the proper and scientific choice of spectacles is of great importance to the public, and I have no hesitation in saying that the empirical hap-hazard plan of selection, generally employed by opticians, is but too frequently attended by the worst consequences; that eyes are often ruined which might, by scientific and skilful treatment, have been preserved for years. I would, therefore, recommend strongly the adoption of the following plan, which is largely employed on the continent, and also by several ophthalmologists in England. The medical man himself selects the proper glass; the focal distance of the required glass is written on a slip

of paper, which is taken to the optician, who supplies the patient with the spectacles prescribed thereon."

We can strongly recommend a careful study of the whole book to our readers. The errors in the arithmetic any one with a knowledge of vulgar fractions can correct.

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*On Ovarian Dropsy: its Nature, Diagnosis, and Treatment.* By I. BAKER BROWN, F.R.C.S., &c., &c. J. W. Davies, London. 8vo., pp. 283.

THE subject of ovariotomy is, perhaps, the most important at present under discussion in the chirurgical world. It is scarcely ten years since the operation was even admitted as one which might possibly become legitimate; and to the present day few of those surgeons who had acquired a certain status at that period, have given in their adhesion to this new and formidable operation. We therefore receive with pleasure any addition to the already not scanty literature on the subject of disease of the ovaries, being firmly convinced that by degrees, as fresh light will be brought to bear upon the subject, and new facts elicited, the correct diagnosis of their diseases will be facilitated; and that once obtained, we may fairly expect a greater degree of success in future operations.

It has been said that the agriculturist who causes two blades of grass to grow where only one blade grew before is a great public benefactor. What shall be said of those men who, in the teeth of a storm of opposition—unsuccessful operations, and the resistance of the *vis inertiæ* of preconceived opinion and prejudice—have still persisted in their course, and have at last succeeded in establishing ovariotomy among the legitimate operations of surgery, and that not only in Great Britain, but also on the Continent? But a few years ago the wretched victim of ovarian dropsy, however young, however free from all malignant disease, was doomed to a slow, exhausting, and lingering death; her life was wretched, and the only relief she experienced was when the surgeon came, from time to time, to tap the ever-filling cyst. At last such a patient would die, not killed by a disease, the existence of which was incompatible with life, but simply worn out—exhausted. Ovariotomy could, in all probability, have saved such a one; for, the published tables of

this operation show the great fact, that out of 395 completed operations, 212 have resulted in recovery. Great honour, then, is due to British surgery; for this operation is essentially of British origin, and will ever reflect the greatest credit on British genius, philanthropy, and perseverance.

The work before us is divided into six chapters, which treat successively of the pathology of ovarian or encysted dropsy; of the symptoms and cause of ovarian dropsy; of the diagnosis of ovarian dropsy; of the treatment of ovarian dropsy; concluding with a narrative of 42 cases of ovariotomy, with the patient's previous history and the eventual result, embodying a mass of information, the value of which could not be over-estimated.

The author reviews the various modes of treatment, commencing with the several forms of tapping through the abdominal walls, the vagina, and the rectum; tapping, followed by regulated pressure, and treatment by injections of iodine after tapping. Graduated pressure after tapping seems to have proved successful on several occasions in Mr. B. Brown's practice; and at p. 100 will be found the details of a very interesting case treated and cured by this method alone. But we should fear that in the event of this treatment failing, the patient would be then in a less favourable position for the operation of ovariotomy, as we would fear that the long-continued pressure might have been productive of many adhesions, which always more or less serve to complicate and render more hazardous the operation.

The chapter devoted to the consideration of the operation itself is full of instruction. Speaking of the character of the incision, the author says:—"I have not enjoined the use of any particular length of incision. . . . . The long, the medium, and the short and small incision have each had their advocates. . . . And statistics have been adduced to show that fewer deaths attend this or that length of incision. Such discussions I regard as of little moment." So far as our personal experience goes we fully concur with the author; and we believe that the length of the incision will not tell against the patient's chances of recovery, while it will greatly facilitate the proceedings of the operation, and thus indirectly increase the chances of success. We have been taught by practical experience that the peritoneum is not that delicate membrane which it was once thought to be; it is of far tougher constitution, and will bear a deal of hard usage, as is well proved by those cases in which the operation has not been concluded in consequence of

vast adhesions, mistaken diagnosis, &c.; and where, after considerable manipulation and examination of the viscera, the abdominal parietes have again been stretched over the tumour, brought together by sutures, and the patient has recovered without a single drawback. The real difficulty we have to contend with in ovarian cases consists entirely in the diagnosis. We have vastly improved during the last ten years; but we have still much to learn. Accuracy of diagnosis will, without fail, increase our success, as we shall be in a position to select or discard such cases as are fit, and such as are unfit, for operation. Such accuracy can only be obtained by experience, and by careful study, not only of successful cases, but also of unsuccessful ones; nay, even more by the latter, as the *post mortem* examination comes in to our assistance. In conclusion, we recommend this work to our readers, and we trust that every one who can will contribute his share to the improvement of the diagnosis of diseases of the ovaries, and the illustration of the operation of ovariotomy, an operation which, if formidable in itself, is not more so (if statistics can be depended on) than many other operations of daily occurrence in hospital practice, while it has advantages which no other operations possess; for, when successful, it completely cures in cases where otherwise death would be inevitable, and it neither mutilates nor leaves any deformity behind.

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1. *A Treatise on the Continued Fevers of Great Britain.* By CHARLES MURCHISON, M.D., Fellow Royal College of Physicians, Senior Physician to the London Fever Hospital.
2. *Lectures on the Distinctive Characters, Pathology, and Treatment of Continued Fevers, delivered at the Royal College of Physicians, London.* By ALEXANDER TWEEDIE, M.D., F.R.S., &c.

IN the wide domain of medicine there is no subject of more absorbing interest than fever; and, consequently, we find it engaging the attention of the most profound thinkers amongst the cultivators of medical science in all ages of the world. From a very early period down to the present time, we may trace the history of this pestilence, under a variety of designations, it is true, but all, nevertheless, capable of being included under the generic term—fever.

To the Irish physician fever possesses a peculiar interest, and

claims at his hands the closest study and the most careful investigation, inasmuch as it is a disease with which he has to deal, not merely during its epidemic prevalence, but at all times. With such opportunities of frequent observation, it would, indeed, be strange if Irish physicians had not made fever a special study, and largely contributed to our knowledge of a malady the treatment of which may be said to form no unimportant part of their daily work.

Numerous as the labourers have been in this field of inquiry, at home and abroad, and fruitful as has been the harvest which has been gathered, much remains to be done, and we therefore rejoiced at the publication of *A Treatise on Continued Fevers*, by Dr. Murchison; for we were led to expect a work from the perusal of which we might derive much valuable information; and to this we shall first direct our attention.

We were aware that the subject had long engaged his attention, and we had read with profit his communication to the Medico-Chirurgical Society, on the "Etiology of Continued Fevers," which we consider a most important and valuable contribution to our knowledge of the disease, founded on carefully collected facts. That Dr. Murchison enjoyed ample materials for the performance of the task of writing a treatise on fever must be conceded from the fact that he is Physician to the London Fever Hospital.

The reader naturally asks, what are the sources from which an author draws his experience? and if he finds that he has had ample means of making himself thoroughly acquainted with the disease on which he treats, his statements come with an authority which is too often absent, owing to the propensity which prevails to book-making, by persons whose opportunities are too limited to give weight to their views on any subject connected with medicine.

### PATHOLOGY AND CLASSIFICATION OF FEVER.

In the first chapter, or introduction, of his treatise on fever, Dr. Murchison refers to the subject which has so much occupied the attention of physicians for the last 20 years—namely, the specific identity or non-identity of the different forms of fevers. This point he looks on as settled, believing that the investigations of Henderson, and other writers, on the epidemic of 1843 have established the distinctness of relapsing fever from typhus; while those of Gerhard, Stewart, Jenner, and others, have proved the non-identity of the true typhus and the enteric fever, to which Louis applied the term typhoid.

These three, with simple fever, are classed under the denomination of continued fevers; and our author considers the poisons which produce the typhus, typhoid, and relapsing fever are probably as distinct as the poisons which produce small-pox, measles, and scarlatina Recent investigations, he considers, render it probable that the circumstances under which the continued fevers are generated are different; that the typhus poison is generated by the protracted concentration of the exhalations from living human bodies; that relapsing fever occurs in that peculiar condition of the system produced by starvation, while that of typhoid fever is contained in the emanations of certain forms of decomposing matter.

The discrepant statements of writers on fever are, according to our author, explained by the recognition of several species of continued fever. The history of epidemics proves that each of the specific fevers maintained its identity in all times. Sydenham's description of small-pox and measles applies to the small-pox and measles of the present time. The descriptions of typhus by Fracastorius, of relapsing fever by Rutty, and of "pythogenic fever," as Dr. Murchison proposes to denominate typhoid fever, by Baglivi, Huxham, and Manningham, closely agree with the clinical history of these diseases now. Looking to the recognized causes of continued fevers, Dr. Murchison cherishes the hope that they may be exterminated by attention to sanatory arrangements, as ague and the oriental plague have been by drainage, and the improved construction of our dwellings. The theories which have been proposed to account for the phenomena of fever are glanced at, and the fact noticed that the investigations of Virchow tend to confirm the opinions of some of the earliest writers on medicine. According to Hippocrates, Galen, and Avicenna, "Essentia vero februm est præter naturam caliditas;" and the definition of the world-famous pathologist of our day runs thus:—"*Fever consists essentially in elevation of temperature*, which must arise in an increased tissue change, and have its immediate cause in alterations of the nervous system." How strange it is that, after revolutions of opinion extending over ages, the truth of the old doctrine should be firmly established.

The question of augmented tissue metamorphosis in fever is next noticed, the experiments of Dr. Alfred Vogel referred to, and the increase of urea noted, which was long since established by Prout. Dr. Murchison calls attention to the close resemblance between uremia and some cases of typhus, in which the symptoms may be

referred to the retention of carbonate of ammonia in the blood; but he thinks that other circumstances probably contribute to the production of the cerebral symptoms, such as defective nutrition of the brain and nerves, and mal-aëration of the blood from pulmonary complications.

The experiments of Claude Bernard, Walter, Volkmann, and others, are adduced in confirmation of the probable influence of a semi-paralyzed condition of the sympathetic nerve in producing the increased metamorphosis of tissue, and the high temperature in fever; but not to the exclusion of the influence of altered blood. The influence of the nervous system in the production of the phenomena of fever has long since been recognized; but Dr. Murchison, while admitting that in simple continued fever, produced by mental and bodily fatigue, &c., the nervous system is primarily affected, is of opinion that in fevers produced by a specific poison absorption into the blood is the first link in the chain of morbid action. Dr. Murchison does not believe, with Sir Henry Marsh and others, that the rapidity of the action of a poison is any proof of its acting primarily upon the nervous system; but we think that there is good ground for believing that at least in some cases in which a poison acts instantaneously, and even kills, the shock which is capable of producing such a result is received by the nervous system, and is not the result of absorption into the blood.

In his admirable "Observations on the Origin and Latent Period of Fever," Sir Henry Marsh observes:—"That this instantaneous connexion between a sentient surface and the brain exists, is evident from the manner in which the healthy functions of the external senses is performed. Should it be asked how it is that a poison applied to an abraded or mucous surface should instantly disturb the cerebral and other functions, I should answer that I do not know; but I should, in turn, ask how it is that an electric shock, almost without a lapse of time, is almost fatal; how is it that a blow on the stomach kills upon the spot; how is it that vehement passions shall instantly destroy the functions of life, or so damage them as to produce disease? These all appear to be impressions made upon the nerves or upon the brain, and the effects are instantaneous. These, although inexplicable, prove that it is very possible, and that it accords with the known functions of the brain and nerves, that hurtful impressions applied to the sentient extremities of the nerves shall as quickly as an odour is perceived, or as the shock of electricity pervades the system, produce upon the brain, and thence

upon some or all the organs of the body, injurious or dangerous effects. This principle will be found extensively useful in ascertaining the origin of several diseases."

Alluding to the preceding part of the essay, this distinguished physician and accurate observer proceeds to say:—"From the facts stated at the commencement of this paper, it appears that the poison of contagion produces its effects with the same rapidity as the narcotic poisons to which we have alluded. Headache, debility, sickness of stomach, or vomiting, are amongst the symptoms first produced. This injurious impression upon the sentient extremities is, in a few rare instances, so violent as to be very speedily fatal."

That the blood becomes contaminated at a very early period in fever we are free to admit; but we incline to the opinion of Sir Henry Marsh, that in many cases the nervous system first receives the shock. The phenomena of idiopathic fevers are summed up thus by our author:—

"1st. The fever poison enters the blood.

"2nd. The nervous system (and particularly the sympathetic and vagus) is paralyzed.

"3rd. The retrograde metamorphosis of the muscles and other tissues is increased, while, at the same time, little or no fresh material is assimilated to compensate for the loss. Increased temperature, great muscular prostration, and loss of weight are the results.

"4th. The destruction of tissue is increased by the accelerated action of the heart.

"5th. The non-elimination of the products of tissue—Metamorphosis gives rise to cerebral symptoms and local inflammations.

"6th. On the elimination of the fever poison and the products of tissue metamorphosis the nerves resume their normal function. The undue consumption of tissue is checked, and the patient regains his strength and weight. It is impossible to say why this termination occurs at a definite time in different fevers."

The remedial measures should be directed to attain the following objects, if this be the correct pathology:—

1. To neutralize the poison, and improve the state of the blood.
2. To promote elimination.
3. To reduce the temperature and the action of the heart.
4. To sustain the vital powers by stimulating the paralyzed nervous system, and supplying nourishment to compensate, in some measure, for the increased consumption of tissue.

5. To relieve distressing symptoms.
6. To obviate and counteract local complications.

### HISTORY OF TYPHUS EPIDEMICS.

The second chapter opens with a Historical Sketch of Typhus Fever. The author says "a complete history of typhus would be the history of Europe for the last three and a-half centuries." We cannot agree with Dr. Murchison that his history is an "imperfect attempt" to give an account of the great fever epidemics, for we consider that he has well accomplished the object he had in view.

Passing over the accounts of pestilences in the early times, which are, to say the least of them, apocryphal, and which may or may not have been typhus, we come to 1489, when 17,000 of the army of Ferdinand died of a disease which was doubtless typhus. The Spaniards gave it the name "El Tabardiglio," from the spots on the skin. Fracastorius described an epidemic of typhus (*febris pestilens*), 1505 and 1528—contagious, spotted, "maculæ rubentes puncturis pulicum similes." At this period it was observed that bleeding was followed by disastrous consequences.

In 1550–54, a period of scarcity, 10,000 persons died in Tuscany of spotted fever. In 1557, in France, and in 1566, in Hungary, a fever broke out (*morbus Hungaricus*) in the army of Maximilian II., and extended over Europe. In 1580 and in 1591 Italy was the scene of an epidemic of fever after famine; we then come to the first reported cases in England—"the black assizes." The 30 years' war (1619–1648) brought famine and fever in its train (*febris pestilens maligna*).

In 1643 the armies of the Earl of Essex and of Charles I. were attacked by fever, which was spotted and contagious. Again all England was invaded by it in 1658.

1665.—The Great Plague of London was preceded and followed by fever (*febris pestilens*). The connexion between famine and fever is frequently noted. In 1698 there was a great failure of the crops; and in October a fatal spotted fever began to prevail all over England.

*Typhus Fever in Ireland.*—Dr. Murchison, in continuing his history of typhus—which must be sought, up to the time of Sauvage who first employed the term, under a vast variety of names—proceeds to refer to our own country, which affords an unenviable opportunity to the physician for investigating the disease:—

"At the commencement of last century great attention began to be

paid in Ireland to epidemic diseases, of which a careful chronological history, extending over a long series of years, is to be found in the writings of Rogers, O'Connell, and Rutty. Typhus, however, was known in Ireland long before this, under the designation of 'Irish ague.'"

1700 to 1800.—Rogers observed an epidemic in Cork, in 1708–9 Again, in 1718, a fever is described by O'Connell, which was epidemic in Ireland, which bears all the marks of typhus—duration, from 14 to 21 days—"petechiæ rubræ, purpuriæ, aut lividæ." The harvest of 1717 was cold and wet. From 1721 to 1728 another Irish epidemic, preceded by three bad harvests. We write in a year preceded also by three bad harvests—*abset omen.*

In Rutty's work, entitled *A Chronological History of the Weather and Seasons, and of the Prevailing Diseases of Dublin, &c.*—extending over a period of 40 years, from 1725 to 1765—he gives an account of the fevers of each year, and other epidemic diseases. The fever was the same which prevailed in England at this time. In the records of the fevers of the 18th century we have frequent mention made of a measly rash. In the epidemic of 1740–41 O'Connell calculates that 80,000 perished; and, from Rutty's description of the disease, Dr. Murchison thinks that relapsing fever existed with typhus.

The practitioners of this day generally condemned bleeding. "Cordials and great plenty of sack" found greater favour. It was said by one physician (Short) that, in Galway, "blisters and bleeding made doubly fine work of it." Under the name "Hospital or Jayl Fever," of 1750-52, Pringle described typhus. In this fever, he says, "large bleedings have generally proved fatal." From 1740–41 to 1771 Ireland enjoyed a singular immunity from fever. In this year it showed itself in Tyrone. Dr. Sims attributed it to over-crowding "in foul confined places."

The close of the last and commencement of the present century were periods marked by much suffering in Ireland. Deficient nourishment, the consequence of bad harvests, again was followed by fever. The disease extended to England; and Willan, in controverting the theory which assigned inflammation of the brain as the cause of fever, says:—"Whoever is bled largely from the arm is precipitated to certain death."

1797–1803.—In the epidemic of this period it was observed that fever was more fatal in the upper ranks of life than the lower, and the same is stated to have been the case in the visitation of

1717–21, by Sir Henry Marsh, who thus wrote, referring to the case of a physician who fell a victim to the disease:—"His, too, was an example of that state of the frame which renders fever fatal and destructive in the higher ranks of life. In the latter the violence of the disease falls on the brain and nerves; and I know not of any malady more formidable than that which is vulgarly, but not inaptly, termed brain fever." In the first 15 years of the present century, when Europe was the theatre of war, we find fever more destructive than the sword. The *pestis bellica*, or *kriegspest* was, doubtless, typhus.

1817.—Dr. Murchison gives an excellent account of the formidable epidemic of 1817, derived chiefly, so far as Ireland is concerned, from the ample reports of Barker and Cheyne, and of Harty. Failure of the potato crop, wet seasons, starvation, preceded by a remarkable fall in the temperature, were the precursors of the outbreak of fever. About one-eighth of the whole population of Ireland was attacked; and in Dublin 70,000, or one-third, of the inhabitants. Dr. Murchison concludes that, though many cases of typhus were observed in this epidemic, relapsing fever was the prevailing type in Ireland and Scotland. The small mortality is conclusive on this point. According to Barker and Cheyne the mortality was 1 in $30\frac{1}{2}$ in the Dublin hospitals, while in typhus it is generally 1 in 5. In Edinburgh it was 1 in 22. In reference to this epidemic, our author next speaks of the baneful practice of blood-letting, which may be traced to the theories of Ploucquet, Clutterbuck, and Broussais; and which, for many years, had such "an influence over the minds of physicians, if not over the bills of mortality." Our countryman, Mills, distinguished himself by being one of the first who followed Clutterbuck's precepts. Dr. Murchison, after examination of his cases, comes to the conclusion that not many were true typhus, but rather relapsing fever, enteric fever, ague, pericarditis, &c. Dr. Mills' statements, moreover, that his treatment was more successful than that of his non-bleeding colleagues was refuted.

Armstrong and Welsh advocated bleeding vigorously. It is worthy of remark, that one of the patients of the latter lost 136 ounces of blood at seven bleedings, and had 10 leeches applied. Dr. Murchison thinks all Welsh's cases were relapsing fever. The graphic description, by Dr. Stokes, of the bleeding in the old Meath Hospital, in his student days, is quoted; and this seems to have exceeded anything on record, for "the patients were seen wallowing

in their own blood like leeches after a salt emetic." The small mortality as compared with the epidemic of 1800, Dr. Murchison satisfactorily accounts for by the "substitution of a disease which is rarely fatal for one that is most mortal." The epidemic of 1800 was chiefly typhus; that of 1817 chiefly relapsing.

Even when bleeding was in high fashion, some, more sagacious than their fellows, condemned the extent to which it was carried. Dr. O'Brien, though recommending moderate bleeding in relapsing cases, contended that in typhus it was inadmissible, and recommended wine and stimulants.

1826–28.—This epidemic of fever visited the large towns of Great Britain, and consisted chiefly of typhus and relapsing fever. Dr. Burne, of London, considered the fever "adynamic." Referring to the bleeding of former years, he says:—"The extraordinary, I may, indeed, say wonderful accounts, resemble more the tales of romance and the fiction of sanguine imagination, than the sedate relation of medical facts."

So far as the epidemic in Dublin was concerned, Dr. O'Brien was of opinion that it arose from 20,000 artisans being thrown out of employment, and being destitute of the means of purchasing food. It appears that typhus and relapsing fever prevailed in this epidemic, and the latter particularly in Ireland; but that typhoid cases were also prevalent we learn from Dr. Stokes, who says, that perforations of the intestines were common.

As to the type of the disease at this time, Dr. Murchison observes, that a reviewer of the day stated, that both in London and Edinburgh, it was discovered in 1827, that cases of fever would not bear blood-letting; and this discovery was made seven years before the date assigned by Dr. Christison, to the so-called change in the constitutional type of fever. The relapsing fever seemed to have disappeared from Britain for 14 years after 1828, typhus being the form observed in the interval. In 1837, 11,085 cases were admitted into the Dublin hospitals; and in Glasgow, 5,387; while the total number of cases were estimated, by Dr. Cowan, at 21,800. The fever was unmistakably typhus; the concurrent testimony as to measly eruption and spots being decisive. In London, West observed that "the epidemic seemed to forbid venesection;" and Dr. G. A. Kennedy found "that in Dublin, in the great majority of instances, bleeding was not only inadmissible, but positively injurious." Dr. Murchison refers to the use of wine and other stimulants, and observes, that "the necessity for their employment was ably

advocated by Dr. Stokes." Following the course of epidemic visitations, our author next refers to the fever which prevailed in Philadelphia, in 1836, which Dr. Gerhard says was confined to the most crowded parts of the city, in which the poorest population dwelt. He next comes to the visitation of 1843, with respect to which we have the satisfaction to observe that Ireland neither originated the fever, nor did it extend to it from Scotland, in which it raged to a fearful extent. In Glasgow, 11½ per cent. of the whole population was attacked.

1846–48.—This fever was of the relapsing form, and supervened upon great destitution. The epidemic which followed 1846–1848 is fresh in the memory of most of us, preceded, like many others, by failure of the potato crop, and consequent destitution among the lower classes in Ireland; it soon assumed a most formidable aspect, and extended, not only to the large towns of England and Scotland, but was carried by the tide of emigrants to the distant shores of the New World. In Ireland, it is calculated, a million cases of fever occurred; and in England, 300,000. Typhus and relapsing fever chiefly prevailed, but enteric fever was also present. We are able, from extensive opportunities of observing the epidemic in Dublin, to verify the statement of Dr. H. Kennedy as to the infrequency of the latter. The last outbreak of typhus, on a grand scale, to which Dr. Murchison directs attention is the epidemic which broke out in the Russian and French armies after the fall of Sebastopol. In the first six months of 1856, it is said, that of 120,000 French troops, 12,000 were attacked by typhus, and one-half died.

Typhoid fever was also prevalent; but the great epidemic was typhus. This is proved by the observation of Jacquot. That enteric fever was most frequent in the English army we learn from Drs. Lyons and Aitkin. Dr. Lyons says:—"Of the fevers prevalent in the army of the East, during the period of our investigations, the typhoid was, undoubtedly, the most important and the most fatal." Dr. Murchison observes, that there was a great increase of fever in London, in 1856; and on this occasion it was *not* of Irish origin; in 1858, '59, and '60, it became rare; and so it was also in Edinburgh; for Dr. W. T. Gairdner remarked, that so rare was typhus that he was unable sometimes, for a great part of a session, to exhibit to his clinical class a characteristic case of the disease. Unfortunately, we are never so circumstanced in Dublin.

Having brought his history of typhus to a close, the author draws the following conclusions:—

"1. Typhus prevails, for the most part, in great and wide-spread epidemics.

"2. These epidemics appear during seasons of general scarcity or want, or amidst hardships and privations arising from local causes, such as warfare, commercial failures, and strikes among the labouring population.

"3. During the intervals of epidemics sporadic cases of typhus occur, particularly in Ireland, and in large manufacturing towns of Scotland and England.

"4. Although some of the great epidemics of this country have commenced in Ireland, and spread thence to Britain, appearing first in those towns on the west coast of Britain where there is the freest intercourse with Ireland, it is wrong to imagine that all epidemics have commenced in Ireland, or that typhus is a disease essentially Irish. The disease appears wherever circumstances favourable to its development are present.

"5. In many epidemics typhus has been associated with relapsing fever, and the relative proportions of the two fevers have varied greatly.

"6. From the earliest times typhus has been regarded as a disease of debility, forbidding depletion, and demanding support and stimulation.

"7. The chief exception to the last proposition originated in the erroneous doctrines taught in the early part of this century, according to which the disease was looked upon as symptomatic of inflammation or congestion of some internal organs.

"8. The success believed at one time to follow the practice of venesection was only apparent. It was due to the practice having, for the most part, been resorted to in cases of relapsing fever and acute inflammations, and to the results having been compared with those of the treatment by stimulation of the much more mortal typhus.

"9. Although typhus fever varies in its severity and duration at different times, and under different circumstances, there is no evidence of any change in its type or essential character. The typhus of modern times is the same as that described by Fracastorius and Cardanus. The period during which epidemic fever is said to present an inflammatory type was that in which relapsing fever was most prevalent; and the times in which the type has been

described as adynamic have been those in which relapsing fever has been scarce or absent."

### GEOGRAPHICAL DISTRIBUTION OF TYPHUS.

The geographical distribution of typhus is a subject of much interest. Dr. Murchison says that though it is in Great Britain, and still more in Ireland, that typhus has its peculiar *habitat*, the disease is not imported from the latter country to the extent commonly believed.

It is easier to enumerate the countries in which it is not to be found than those in which it prevails. Australia and New Zealand appear to be exempt; and, according to Dr. Morehead, typhus is unknown on the continent of India. The reports of typhus having been met with in Asia, Africa, and the tropical parts of America, are, probably, incorrect, and refer to adynamic remittent fever. That the soldiers of the army of the East brought typhus with them to France we know from Professor Godelier; and that there have been epidemics of typhus in France is beyond all doubt; but we cannot agree with our author that sporadic cases of typhus in France are mistaken for the more prevalent "fievre typhoide." That true typhus must be rare to an extreme degree in France is proved most satisfactorily by the fact that Trousseau, who is one of the last men in the world likely to be deceived upon any point connected with disease, thus writes, when making allusion to the vexed subject of the identity or non-identity of typhus and typhoid fevers:—

"N'ayant *jamais eu l'occasion d'etudier le typhus au lit du malade*, je devrais decliner ma competence; toutefois, d'après l'idée que je m'en suis faite a la lecture des auteurs qui en ont traité, je suis porté à me ranger a l'avis des medecins Français et Americains qui proclament la non-identité des deux maladies."

Dr. Morehead describes an adynamic remittent of India which resembles bubonic plague, and which, according to him, like both plague and typhus, has "prevailed chiefly amongst the poor, in filthy, badly-ventilated houses and villages, and has been preceded by seasons of famine." The natives of tropical climes are often attacked by typhus on visiting infected localities; and Dr. Murchison has seen many Africans and East Indians labouring under the disease in the London Fever Hospital. The rash in these cases

was distinct. In the Philadelphia epidemic of 1836 Dr. Gerhard found that the majority attacked were mulattoes.

### ETIOLOGY OF TYPHUS.

From the tables of Dr. Murchison, it does not appear that sex in itself has any influence in predisposing to fever. The proportion has varied in different localities; for example, in Ireland, according to Harty and Dr. G. A. Kennedy, the females preponderated, while in other countries the greater number who were attacked were males. Including all forms of continued fever received into the London Fever Hospital for 14 years, the little difference is remarkable—3,780 males, and 3,792 females. Again, with respect to age, we learn from Dr. Murchison's tables, derived from the admissions into the London Fever Hospital (3,456), that the mean age is 29·33. The two most common lustra for typhus are between 15 and 20, and 20 and 25; the youngest case observed was an infant under 12 months; the oldest a man of 84. The tables furnish the result of admissions for 14 years, with reference to the season; the conclusion arrived at is in unison with the experience of most epidemics, viz., that so long as the known causes exist, typhus appears to be uninfluenced by season; but the returns show that the greater number of admissions took place in May, and then diminished progressively to one-half in September. Referring to the predisposing causes, our author enumerates individual idiosyncrasy, intemperance, bodily fatigue, mental fatigue and depressing emotions, previous illness, recent residence in an infected locality, overcrowding, destitution, and starvation. Upon this part of our subject, we find Sir Henry Marsh thus writing of the causes which were found to exercise an influence in predisposing to the fever of 1825-26. After noticing the exemption of the soldiers of the garrison of Dublin from the prevailing disease, he says:—

"If we search after the origin of the now prevailing fever, we shall trace it to the united action of many causes:—

"1st. Insufficient and unwholesome diet.

"2nd. Deficient ventilation, which arises chiefly from want of fuel.

"3rd. Anxiety and depression of mind, arising particularly in parents unable to provide the necessaries of life for their children.

"4th. The poor, being ill clad, are exposed to the injurious influences of atmospheric vicissitudes.

"5th. The drinking of ardent spirits, which many who, when in employment, were not intemperate, from despair resort to.

"6th. All these *depressing* causes give increasing force to contagion, which without these would have been comparatively inert."

Dr. Murchison gives a table constructed from the register of the London Fever Hospital, by which he shows that typhus cases are derived from the most crowded districts. Of the predisposing causes of typhus, our author looks upon destitution and deficient alimentation as the most powerful. He believes that famine predisposes the constitution to the action of the specific poison at times when the latter would otherwise be inert. The important part which famine plays in the causation of fever is testified by the highest authorities; and our author is sustained by the observations of Bateman, in former times, and by Alison, Marsh, and Corrigan.

Alison considered that "the existence of epidemic fever is a most important test to the legislator of the destitute condition of the poor."

Dr. Murchison replies, at length, to the arguments of our learned contributor, Dr. Henry Kennedy, who, in an essay of singular ability, attempted to prove that epidemic fever is independent of famine. We must admit that Dr. Kennedy did not assign to famine a due share in the production of fever, although he does not exclude it from the predisposing causes "which have a tendency to lower the bodily health," and doubtless thus render it more liable to be influenced by contagion. In addition to adducing the fact that fever frequently makes its appearance where there is no deficiency of food—such, for example, as in gaols—a circumstance noticed by Dr. Harty in Dublin—Dr. Kennedy appeals to the circumstance that, after the failure of the crops in 1846, Ireland was "unusually healthy and free from fever;" but, observes Dr. Murchison, "he wrote on the eve of one of the greatest epidemics of typhus on record."

In strongly putting forward the influence of famine in predisposing to fever, the author does not by any means go so far as to state that he believes it is capable of producing fever; or, in the words of Dr. Corrigan, that "if there be no famine, there will be no fever."

Firmly convinced as we are that deficient alimentation is one of the most potent of the predisposing causes of epidemic fever, we have looked with sad forebodings at the three successive seasons of

comparative failure of the crops in Ireland; but the prospect brightens, and we confidently hope that this year will be one of unusual plenty.

As, strange to say, there is still division of opinion on the subject of the contagious nature of typhus, Dr. Murchison deems it necessary to devote a chapter to the arguments in favour of its communicability.

He starts with the following propositions:—

*a.* "When typhus commences in a house or district, it spreads with great rapidity.

*b.* "The prevalence of typhus in single houses, or in circumscribed districts, is in direct proportion to the degree of intercourse between the healthy and the sick.

*c.* "Persons in comfortable circumstances, and living in localities where the disease is unknown, are attacked on visiting infected persons at a distance.

*d.* "Typhus is often imported by infected persons into localities previously free from it.

*e.* "The contagious nature of typhus is indicated by the success attending the measures taken to prevent its propagation, more especially the early removal of the sick."

The foregoing propositions are supported by a mass of irrefragable evidence; and we could supply from our own, and from the experience of other Irish physicians who are daily engaged in the treatment of fever, numerous additional facts. The records of our hospitals tell a sad tale of deaths from typhus among the attendants on the sick—physicians, clinical clerks, and nurses.

For ample information on this head we refer to a former volume of this Journal—(Vol. IV., p. 134):—"On the Mortality of Irish Medical Practitioners from Fever in Ireland," by Drs. Cusack and Stokes. The object which induced these distinguished and philanthropic members of our profession to undertake the painful duty of chronicling the deaths was to bring under the notice of the Government a correct statement of the average mortality of the medical men in Ireland. They hoped thus to induce the Government, with a full knowledge of the risk attendant on the duties, to assign a liberal scale of remuneration for attendance on fever hospitals. Of 1,220 medical men who were attendants on 406 medical institutions during a period of 25 years, 300 have died—nearly *one-fourth* of the whole. In the Irish epidemic of 1817-19, 40 physicians took the disease in the province of Munster. Dr

W. T. Gairdner, writing of the epidemic of 1847-8 in Edinburgh:—"In no single instance known to me did a nurse, who had not had fever previously, remain for six weeks attached to a fever ward without catching the disease."

Dr. Christison states that during a period of 32 years he and two of his colleagues attended 280 medical students in fever contracted in the infirmary or fever hospital.

Dr. Murchison considers that the poison is contained in the cutaneous and pulmonary exhalations of the sick; and in this opinion we concur. The writer of this review has a vivid recollection of the manner in which he contracted typhus. In going his rounds in the fever hospital, early in the morning, and not being in very flourishing health at the time, he was engaged in examining the chest of a patient labouring under true typhus. While thus employed the patient was seized with cough, and the ausculator received a violent expiration. It so happened that the sick person's breath must have been inhaled. The odour was intolerably offensive, and the remembrance of it remained firmly impressed on his mind. He was conscious that he had imbibed the poison; and on the third day he manifested the usual symptoms which usher in the disease. With respect to the peculiar odour from the sick, we may refer to the late Dr. Montgomery's letter, published in Sir Henry Marsh's essay *On the Origin of Fever*, giving an account of the manner in which he caught fever. He writes, that in closely examining a fever patient, he was sensible of a very disagreeable odour from the skin. At the moment it made a considerable impression on the sense of smell, being almost as pungent as the odour from an *ammoniacal salt*. This observation is interesting in connexion with the recent theories as to the nature of the typhus poison, and its supposed identity with ammonia. According to Liebig, Simon, Scherer, Viale, Latini, and Richardson, the typhus poison is a compound of ammonia; and Gerhard has observed that patients who emit the strongest odour are most likely to communicate the disease. The question of the power which fomites possess of transmitting the poison of typhus is discussed, and reference made to the writings of Pringle, Lind, and Bateman, and to the more recent observations of Barker and Cheyne, and also of Jacquot on the Crimean typhus. The case of the Egyptian vessel, the *Scheah Gehead*, is also alluded to, and the fact mentioned of the seamen having propagated fever, by means of their persons and clothes, though they did not then labour under the disease.

According to Dr. Murchison's experience, the latent period of typhus is about nine days, but it may vary from a few hours to 12 days. Different writers have assigned different periods for the incubation of the disease. Bancroft, one day to five or six months. Sir Henry Marsh has recorded several cases in which the poison appeared to act almost instantaneously. Much difference of opinion has prevailed as to the period when the disease is most infectious. Dr. Perry, of Glasgow, thought the disease not contagious till the ninth day, perhaps not till later. Dr. Murchison thinks from the end of the first week up to convalescence; or, in other words, when the peculiar odour from the skin is strongest.

The question of immunity from second attacks of typhus is one of much interest to the physician. Our author cites many authorities to support his view of the case, which we, from large experience, fully concur in, viz., that second attacks of true exanthematic typhus are very rare. The exceptions to the general law are not numerous, but some are recorded on undoubted authority. Dr. Murchison himself tells us that he had typhus fever twice, and that the characteristic eruption was well marked on both occasions. We believe that in some reported instances of second attacks of typhus the term was applied to continued fever, without distinguishing one form from another.

Dr. Murchison believes in the spontaneous origin of typhus in many instances; and we think there is abundant evidence to prove the accuracy of the opinion. In 1836, an epidemic of typhus broke out in Philadelphia:—"Amongst the very first cases were seven negroes, the entire population of a cellar."

In the year 1859, typhus, which was absent from Edinburgh, appeared, and there was no reason to suppose it had been imported. Dr. W. T. Gairdner examined the localities, and he found the cases occurred under circumstances of extreme over-crowding and deficient ventilation. Dr. Murchison gives a number of cases, investigated by himself, which were received into the London Fever Hospital, and which tend powerfully to establish the effect of over-crowding. The history of gaol fever abounds in examples of the effect of over-crowding. In 1815 Dr. Harty showed that typhus was generated in our prisons.

Passing over the early accounts of the gaol fever, we find, in modern times, a verification of the doctrine. In 1854 fever broke out in the gaol at Strasbourg; and Forget, who, writing in 1841 on the common fever of France, had never seen a case of typhus,

immediately recognized the disease as new, and communicated to the Academy proofs of the non-identity of typhus and typhoid fevers.

Having adduced proofs of the power of over-crowding from the examples of ship fever, military fever, hospital fever—other names, be it observed, for typhus—Dr. Murchison concludes the subject of the etiology of typhus thus:—

"1. Typhus is due to a specific poison.

"2. This poison is communicated from the sick to the healthy, through the atmosphere, or by fomites; but is rendered inert by free ventilation.

"3. The poison is also generated 'de novo' by over-crowding and bad ventilation.

"4. The great predisposing cause of typhus is defective nutrition."

### SYMPTOMS OF TYPHUS FEVER.

Doctor Murchison gives a typical case of typhus, and then proceeds with an analysis of the symptoms. The physiognomy is first described; then the morbid phenomena referable to the skin. The title of typhus to rank as an exanthem appears to us to be good. Dr. Murchison says:—"On its first appearance the eruption is undoubtedly a true exanthem, due to hyperemia of the cutaneous capillaries; but in most cases, sooner or later, an escape of blood pigment into the cutis is substituted for the hyperemia." The frequency of the eruption is calculated by Dr. M., from observations at the London Fever Hospital spread over 10 years; it was absent in 11·5 per cent. In 1856 90 cases were noted; and in all but six the eruption existed. Jacquot observed spots in 152 of 159 of the Crimean cases. The presence of purpura spots and vibices is noticed; and their frequency, when typhus and scurvy coëxist, as was the case in the Crimea. The occasional presence of sudamina and herpes is noted. There is a form of eruption which we have observed in a solitary case of typhus fever, of which we have never seen any notice in systematic works on fever, and which must be of extreme rarity. The case in which the eruption we allude to occurred was that of a physician, who contracted fever in the discharge of his duties as a dispensary attendant, in a remote part of Ireland. He travelled to Dublin, labouring under the disease—a circumstance which may be looked upon as eminently calculated to impress an unfavourable character on the case. There was nothing peculiar in the eruption until two days before the fatal issue. The spots were numerous, and had early assumed a petechial character; but, at the time indicated, Dr. Mayne and ourselves detected the

presence of a few papulæ, which soon increased in number, and, finally, became vesicular. We immediately recognized their resemblance to the spots which we had often seen in glanders and other forms of diffuse inflammation. Dr. Murchison, in his observations upon the symptoms referable to the circulatory system in typhus, gives full credit to Dr. Stokes for his valuable observations on the state of the heart in typhus:—"It is to Dr. Stokes that the profession is indebted for pointing out the cardiac phenomena of typhus."

Under the head "Morbid Phenomena of the Respiratory System," the author refers to the important observations of Dr. Corrigan on cerebral breathing—a form of respiration which, according to this accurate observer, precedes the advent of coma, and which is distinguished from the breathing in bronchitis by the absence of any evidence of obstruction in the tubes, and also by the absence of the characteristic lividity of the face. In the cerebral breathing the countenance remains pale or natural, or becomes high-coloured.

With respect to the expired air, the diminution of carbonic acid, and the increase of ammonia, claim attention.

For the first fact, the carefully conducted experiments of Dr. A. G. Malcolm, of Belfast, on 50 cases of typhus, are quoted; and for the latter, the researches of Drs. Reuling and Richardson.

The morbid phenomena referable to the digestive organs are described. We shall only refer to one point—namely, the presence of intestinal hemorrhage. In 1,000 cases noted by the author it did not occur; and the same is true of 2,000 of Dr. Jenner's cases; but, rare as it is, we have seen it in true typhus; and Dr. Tweedie, of the London Fever Hospital, has observed a case in which it was fatal. Dr. H. Kennedy, however, records 30 cases, and in no fatal case was there intestinal ulceration.

The examination of the urine is always looked upon as a most important part of the investigation of a case of fever. It is within the experience of most physicians who have seen much of fever that symptoms of uremia precede death in some cases, and in a considerable number of such no organic renal disease exists. Dr. Murchison even thinks that "these symptoms, so characteristic of typhus, are in a great measure due to the presence of urea, or its derivative, carbonate of ammonia." The presence of albumen in the urine, in severe cases of fever, is, doubtless, due, in general, to the same cause which gives rise to petechiæ—viz., the morbid state of the blood; but in some instances it is not due to mere hyperemia,

or to a liquified condition of the blood, but to either preëxisting renal affection, or to the fact of the kidneys having become diseased in the progress of the fever. That the convulsions which occur in typhus, or in any of the exanthematic fevers, have a uremic origin seems more than probable.

We can corroborate, from our own experience, the accuracy of Dr. Murchison's observation, that "although albuminuria is the rule, it is not invariably present when convulsions occur in typhus."

The morbid phenomena presented by the nervous system in typhus are worthy of the closest study. Dr. Murchison gives the result of his own experience, and that of others, as to their frequency. He has found, as Irish physicians have observed, that the upper ranks are more liable to delirium than the lower; that it is earlier, and more marked. Of the cases noted by the author in the London Fever Hospital, the mental faculties were impaired in 86·6 per cent. As to the period when delirium commences, of 1,005 patients observed by Barrallier, at Toulon, the delirium appeared during the first week in 371; during the second, in 602; and during the third, in 32.

Dr. Murchison has noted wakefulness to a greater or less extent in 78 out of 92 cases. The headache he has found in general to cease before the advent of the delirium, "a feature of no small importance as regards diagnosis from cerebral inflammation."

The typical forms of delirium are faithfully described. In noticing the "delirium ferox," and the suicidal tendency which at times exist, the case of a patient mentioned by Barrallier is quoted, who, in his attempt to amputate the penis, inflicted a deep wound in the hypogastric region. There is a form of delirium occasionally met with in fever which is unlike any of the ordinary phases described, and much more rare than the merely acute, noisy delirium, which manifests itself in screaming and shouting, and attempting to get out of bed. In the form we allude to, superadded to the usual symptoms, there is extreme violence and destructiveness, and, in short, a state closely resembling acute mania.

We lately attended a gentleman who presented this form of disease to such an extent as to lead to the belief at first, on the part of his family, that the case was one of insanity, and not of fever. In this instance the delirium commenced at an unusually early period; and so extreme was the violence that the relatives expected that the patient would be at once sent to a lunatic asylum Several times he struck both his father and mother, and it was with great difficulty,

and by the aid of strong men, that he could be prevented from jumping out of the window. For a considerable period after the fever had passed away he showed signs of mental aberration. His memory was most defective, and he frequently made mistakes as to the identity of individuals. This case ended in complete recovery, which we have found to be the termination of all cases of mental alienation continuing after, or supervening on, typhus, which have come under our observation. The experience of our author on this point coincides with our own.

Dr. Murchison gives an interesting account of his own ravings in fever, and refers to the reports of others who retained a recollection of their sensations. We know of no delusion more strange than one under which we ourselves laboured in fever, and which took firm possession of the mind—viz., a belief in being pregnant; and, as may be well conceived, this became a source of much misery. The extended statistical tables of Dr. Murchison afford valuable information as to the duration of typhus. The mean duration in 53 uncomplicated cases he found to be 14·13 days. Although about 14 days may be set down as the duration of typhus, we see some examples of rapidly fatal cases; and in others, in which the disease, remarkable for its shortness, has been mild in its character. In his chapter on the complications and sequelæ of typhus fever, Dr. Murchison calls attention to the points of resemblance between our fever and the eastern plague, and observes:—

"Typhus may be as speedily fatal as true plague; it is occasionally, like plague, complicated with buboes, which, though not pathognomonic of either disease, are, as far as my knowledge extends, much more common in typhus than in any other febrile disease, excepting plague; while, in the "Typhus Siderans" of Torgan and Mayence they seemed to have appeared as early as in plague. Many writers state that the one affection merged into the other, and sometimes it was difficult to say whether a case was typhus or genuine plague."

The diagnosis of typhus is dwelt on, and the diseased states which simulate it pointed out.

We have adverted to the resemblance the mental state bears in some cases to acute mania, and Dr. Murchison says that it is only by the presence of the rash, or the exposure of the patient to the poison of typhus, we can distinguish this disease from meningitis. He has known cases of uremia from kidney disease sent to the Fever Hospital as typhus, the absence of rash being the only circumstance which excited a doubt of the correctness of the diagnosis.

The tables of Dr. Murchison afford much information as to the rate of mortality in typhus. Of the cases of typhus admitted into the London Fever Hospital, in four years and a-half (4,787), 1,000 died, being 1 in 4·78. But deducting the cases which were moribund on admission, and which died within 48 hours, it falls to 1 in $5\frac{2}{3}$. Thus, he says, it may be assumed, from the records of the disease, that one out of every five cases attacked will die. The mortality is greater among males than females; and, as to age, it was found that of the cases which recovered, the mean age was 26, that of the fatal cases was nearly 42.

Dr. Murchison sums up the symptoms and complications which indicate danger in typhus with accuracy and truthfulness. Among the complications from which the greatest danger may be expected, he says, are pulmonary hypostasis and bronchitis, pneumonia, gangrene of the lungs, convulsions, pyemia, erysipelas, parotid and other inflammatory swellings, bed sores, gangrene of the extremities and the mouth, renal disease, and scurvy. Finally, he notices the fact of the gouty diathesis from its frequent accompaniment with renal disease being a most unfavourable circumstance; and makes the important observation that he has never known a gouty person attacked with typhus recover.

### PREVENTION OF TYPHUS.

Admirable rules are laid down for preventing the generation of the typhus poison; and in periods of scarcity, and during the prevalence of typhus, he recommends, instead of supplying relief in their crowded dwellings to the poor, to erect temporary buildings or tents in the vicinity of large towns. The expense, he considers, would not exceed what the spread of an epidemic always entails. Overcrowding in the town would be thus prevented, and the poor would be supplied with food and fresh air. At the same time we would urge the necessity of caution in collecting large masses of people together during the prevalence of epidemics; for, as is forcibly put by Dr. Graves, we believe this to be a certain method of causing contagious disease to spread. Speaking of cholera, which he believed to be contagious, Dr. Graves says:—

"In the above-mentioned years of public calamity (1846 and 1847), fever so fast followed on the footsteps of famine that some persons thought the former was the natural consequence of the latter; whereas the unusual prevalence of fever in those years arose, not directly from the want of food, but indirectly, from the opportunity the contagion had

of affecting persons brought together to partake of the measures of relief. . . . In truth, wherever large numbers of starving persons are collected to receive food it is a mere matter of accident what contagious disease may become prevalent among them. It may be fever, it may be plague, it may be cholera; or it may be small-pox, if the nation consists chiefly of persons unprotected by vaccination, as occurred in the lamentable famine at Gujerat, in 1812, when the small-pox broke out in the midst of the multitudes assembled for the purpose of receiving rice—and, in a few months, very nearly depopulated the country."

### TREATMENT OF TYPHUS FEVER.

The treatment of typhus fever is next to be considered. Dr. Murchison first considers the hygienic treatment; and, having given some useful directions on this head, he then proceeds to the therapeutic; but before entering on what he terms the "rational method of treatment," he discusses several modes which have been recommended. As to *blood-letting*, he thinks that none of its former supporters would have recourse to it now. With respect to the revolutions of modern practice, he considers they have been erroneously attributed to change of type, and they are due in point of fact to change of disease, or, in other words, to confounding relapsing fever and typhus.

*Alcoholic Stimulants.*—The practice of administering stimulants in fever, which was followed by the best practitioners of the last century, has been reëstablished for the last 30 years; and the revival of their use, Dr. Murchison correctly states, is mainly due to the teaching of Alison, Graves, and Stokes. He, with good grounds, however, fears that the administration of stimulants may be carried too far; and well he may, when we find upwards of 48 ounces of brandy given within 24 hours, forgetful of the fact that alcohol is a poison. Our author differs from the late Dr. Todd as to the action of alcohol, adhering to the old view that it is as medicine, not as food, it acts beneficially. We cannot refrain from giving in our adhesion to this view, albeit at variance with our distinguished countryman; and, in support of it, we would refer, for sound practical observations on alcoholic stimulants, to Dr. W. T. Gairdner's *Clinical Medicine.*

*The Cold Affusion.*—After some observations on the history of this practice, and the neglect which it has fallen into, Dr. Murchison says:—"There is no evidence that the cold affusion ever cut short a case of true typhus; but it is, probably, a powerful remedy for mitigating symptoms, and too much neglected in modern practice."

We know, from frequent observation of its effects, that a modification of the cold affusion is a remedial measure of great value; we allude to sponging the surface, and pouring cold water on the shaven head, from a watering-pot *with* a rose, not without one, as recommended by Dr. Southwood Smith.

Dr. Murchison accounts for the present neglect of the cold affusion in fever by "the natural aversion of medical men to anything approaching a system of quackery, which makes the water-cure a *panacea* for all diseases."

There is another remedy which has got the credit of cutting short continued fever, namely, quinine; and this, no doubt, from the error of confounding our typhus with the adynamic remittent of the tropics. Some physicians who have tried it speak favourably of its use; but our author informs us that, as clinical clerk to Dr. Bennet, he had an opportunity of watching his cases, and that he can confirm the unfavourable opinion formed by him. In the Crimean typhus it had a full trial, and was found not merely useless, but dangerous. Dr. Corrigan afforded a physician who had practised in South America an opportunity of testing its efficacy, and it was found to fail in arresting the disease; and—what must be a fatal objection to its use—it occasionally produced great irritation of the mucous membrane, and a *very depressing* effect upon the pulse. It has been noticed by some, that in addition to producing great depression, it has exasperated the cerebral symptoms. The result of our own experience of this agent is—that a further prosecution of experiments on its action in typhus is as unnecessary as it is unwarrantable.

*Emetics* have been extensively used in the early stage of fever, and by some as an abortive remedy. That they are useful sometimes, we are free to admit; but we are inclined to go farther than the author, who is *doubtful* as to their ever having cut short typhus, and affirm that they *never* have.

Touching *Purgatives*—having seen numerous cases in which extreme prostration followed the purgation to which patients are often subjected to by *active* practitioners before their admission into hospital, we regret we cannot agree with Dr. Murchison that the practice is now "obsolete."

*Mercury* has been employed both with the view of arresting the febrile process, and also as a remedy in the course of the disease. In Germany it has been given in scruple and half-scruple doses, by Schönlein and Traube. Wunderlich has given it an extensive trial,

but chiefly in enteric fever. Of the two typhus cases in which calomel was administered, he says:—"Von denen einer starb, während der andre einen nicht abge kurzten, aber mässigen Verlauf der Krankheit zeigte." Having disposed of the "heroic remedies," Dr. Murchison proceeds to the "Rational method of treatment," premising that he does not believe in any specific.

Our objects in the treatment of typhus, Dr. Murchison says, should be:—

"1. To neutralize the poison, and to correct the morbid state of the blood.

"2. To eliminate the poison and the products of the destructive metamorphosis of tissue.

"3. To reduce the temperature.

"4. To sustain the vital powers, and to obviate the tendency to death.

"5. To relieve distressing symptoms.

"6. To avert and attack local complications."

Under the first head the author gives us the result of his own experience of the value of mineral acids in many hundred cases; and, without ascribing to them the wonderful efficacy which some writers do, he looks on them as most valuable. Whether they act as antidotes, alteratives of the blood, or as tonics, their beneficial influence is undoubted. At all stages he recommends the acids. From the days of Sydenham they have been held in high repute, but Huss and Haller, on the Continent, and Drs. Mackenzie, Chambers, and Richardson, at home, have, in a great measure, revived the practice.

Huss, believing that phosphoric acid has a special influence on the brain, prefers it to any other acid; but our author gives a mixture of acids—20 drops of hydrochloric acid and 10 of nitric acid—every third hour. When the "typhoid state" is pronounced, he gives 15 to 20 drops of dilute sulphuric acid, with small doses of quinine and ether. He thinks the remedies recommended as antiseptics or correctives of the blood are inferior to the acids.

With a view to the elimination of the poison and the products of metamorphosis of tissue, he adds five grains of nitrate of potash; or, in the advanced stage, nitric ether to the nitro-muriatic acid.

Tea and coffee are also spoken favourably of as "expergefacients." Dr. E. Percival first recommended green tea in comatose affections, and particularly in those of typhus; and Drs. Stokes and Graves added their testimony as to its value.

Many years since chloride of sodium was strongly recommended in fever, and also in cholera, by our venerable friend, Dr. Robert Reid, of this city; and Dr. Murchison is in the habit of directing large quantities of salt to be added to the beef-tea of his patients, by whom it is relished, and in some cases it appeared to him to be beneficial.

The action of the bowels is to be kept up by emetics and laxatives, according to our author; he says we should begin by an emetic of ipecacuanha (one scruple) and antimony (one grain), or of carbonate of ammonia (two scruples), followed, if the bowels remain confined, by a mild laxative of rhubarb and calomel, or castor-oil, or a simple enema. We recommend that if the emetic be administered, it consist of ipecacuanha or carbonate of ammonia, and that the tartar emetic be omitted. We shall have to say a word on the use of tartar emetic again, in another place.

We also think it would be better to omit the calomel; and indeed our author seems to have some misgivings himself on the subject, for he says:—"In most cases a small dose of castor-oil or a simple enema is all that is required."

If we turn to Dr. Corrigan's lectures on fever, which we look upon as the safest guide with which we are acquainted for the young physician, we find him saying:—"It is seldom necessary to administer aperients; the bowels are generally spontaneously moved once or twice a-day. The objection that would apply to the frequent use of aperients does not apply to enemata; if they cause irritation they are expelled without extending a continued irritation over a large surface." Our own practice as to the regulation of the bowels is very simple indeed. If the bowels are not moved spontaneously, we direct an enema of warm water, which we almost invariably find sufficient to solicit the bowels to act.

Dr. Murchison makes some judicious remarks upon diet in fever, observing that the tendency now-a-days is rather to over-feed than starve fevers, and reprobating the custom of forcing food down the throat every half-hour, or more frequently.

The next subject is, perhaps, the most important of all in the treatment of typhus, namely, the administration of stimulants. He most properly observes that it is impossible to lay down any rules which will be universally applicable; but the following observations he offers for the guidance of the practitioner:—

"*a.* Some cases, under a supporting diet and the mineral acids, do well without wine or brandy at any stage.

"*b.* During the first five or six days wine is required but in few cases. Most cases require a greater or less amount at some time during the second week; and, as a rule, it is good practice to commence the exhibition of stimulants about the seventh or eighth day.

"*c.* The chief indications for the administration of wine are derived from the organs of circulation.

"*d.* Extreme softness and compressibility of the pulse—an irregular, intermitting, or imperceptible pulse—are greater indications than mere rapidity.

"An abnormally slow pulse (*e.g.* 40 to 60) is occasionally a stronger indication for stimulants than a quick pulse.

"If the pulse becomes quicker, and the face flushes under the use of stimulants, they are contra-indicated; if the pulse is made slower they may be expected to do good.

"*e.* Stimulants are not required when the cardiac impulse is good. When the impulse is weak, and when the first sound is impaired or absent, a liberal allowance is demanded. We must not trust entirely to the pulse. Radial pulse may be distinct, with diminished or absent impulse and first sound.

"*f.* Stimulants are always demanded when a tendency to syncope, or a great diminution in the strength and volume of the pulse is produced by raising the patient to the semi-erect posture.

"*g. Cæteris paribus*—stimulants are more necessary the darker and more copious the eruption. Numerous petechiæ are an indication for stimulants.

"*h.* A burning and dry skin is in itself an indication against alcohol; whereas profuse perspiration, with no cotemporaneous improvement in the general symptoms, calls for an increased supply.

"*i.* Coldness of the extremities is an indication for alcohol. The increased heat which follows its use is not necessarily due to the chemical transformation or combustion of the spirit, but to the increased circulation and diminished evaporation from the skin.

"*k.* The more the case presents the characters of the typhoid state (*i.e.*, stupor, low delirium, tremor, subsultus, and involuntary evacuations) the more will stimulants be required.

"*l.* Scanty urine, of low density, containing little urea or much albumen, and complete suppression of urine, are in themselves indications against a large supply of spirits.

"*m.* Delirium must not be regarded as of necessity indicating alcoholic stimulants. The state of the pulse indicates the propriety. If the patient becomes more restless and delirious they do harm; if he becomes more tranquil, they do good.

"*n.* Alcohol, as a rule, is contra-indicated if there be severe darting or throbbing headache, or acute noisy delirium; especially when these

symptoms coëxist with great heat and dryness of skin and suffusion of the eyes, and with little or no impairment of the cardiac and radial pulse.

"*o.* A brown dry tongue is an indication for brandy and wine, rather than otherwise. If the tongue becomes clean and moist at the edges it is a sign that the alcohol is doing good.

"*p.* The presence of complications, as a rule, increases the necessity for stimulants; and certain complications, as pyemia, erysipelas, bronchitis, pulmonary hypostasis, pneumonia, inflammatory swellings, bed sores, and local gangrene, usually demand large quantities.

"*q.* Stimulants are required earlier, and in larger quantity, by persons who have led intemperate lives and of advanced years."

The selection of the kind of stimulant is a matter of much moment sometimes, and it is not easy to give general rules; but we may advise the practitioner to be guided by the habits of the patient. Dr. Murchison is not certain that wine possesses any advantage apart from the alcohol it contains. In persons who have led temperate lives, and in the young, we rarely find it expedient to resort to spirits; but among our hospital patients we are constrained to give spirits in addition to wine, or to trust to it altogether—the wine being inefficient. Our author gives a caution, which is most valuable, and one which we have long been in the habit of impressing, viz., the necessity of carefully guarding against the patient in fever being neglected during the night, and towards morning. It is at this period the nurse is most likely to refrain from the administration of wine; or it happens occasionally that the stimulants have been expended before the early morning, when "the powers are at the lowest ebb." We are sure the observation is well founded, that "many patients are undoubtedly lost from negligence of their attendants at this time."

In our own practice we have not been accustomed to give the monstrous quantities of wine, and brandy, or whiskey which we hear of; and we are, therefore, inclined to agree with the author that the cases are exceptional which require 16 ounces; but, unlike his experience, it has been our lot to meet with cases which required more. Doubtless they are few; but we would err, indeed, if we laid down any dogma, limiting the wine or spirits to any particular number of ounces. This must be judged at the bed-side of each individual patient.

We would be inclined to say of wine what our author says of food—the tendency of modern practice is to overdo the wine rather

than to be under the mark. For the benefit of our inexperienced readers we shall give Dr. Corrigan's advice connected with this subject:—"Do not confide its administration, with vague directions as to quantity, to an ignorant nurse or to over-anxious friends. I have seen wine given, under such circumstances, in most mischievous excess, fatal coma being the result."

The addition of medicinal stimulants will be generally required; and we believe, with the author, that the different etherial preparations are to be preferred to carbonate of ammonia, which, according to the experience of Drs. Kennedy and Lyons—and we may add our own—is likely to produce irritation of the bowels. With the ether the author combines small doses of quinine or liquor cinchonæ.

To relieve headache we are recommended, after the administration of an emetic and securing the action of the bowels, to apply cold; but, if the headache is intense, with flushing of the face, redness of the conjunctiva, dry hot skin, he directs the head to be shaved, and a bullock's bladder, filled with ice, to be tied over it. In the intense headache of the young and robust he has been tempted to apply from two to four leeches, and their application has been followed by permanent relief.

In the first place, we would advise the physician not to wait until the headache is intense before shaving the head; the mere removal of the hair, and the application of cold—or, better, the pouring tepid water or cold water from a watering pot on the head, will often *prevent* the severe symptoms mentioned; but if they set in, we never hesitate to apply leeches. One recommendation of Dr. Murchison's we must strongly condemn—namely, that a bullock's bladder, filled with ice, is to be tied over the scalp. This we look upon as a barbarous mode of applying cold; and, if incautiously allowed to remain too long, likely to do much harm. Our author, indeed, further on, speaks of the depressing effect of cold on aged persons, and advises warm fomentations, following the directions of Dr. Graves.

The treatment of sleeplessness, excitement, and delirium is of the utmost importance. Admitting that the cerebral symptoms are independent of inflammation, we, nevertheless, are persuaded that the abstraction of a little blood by leeching (three or four) is one of the best means of procuring sleep. We have seen a patient who had been sleepless for one or two nights, fall asleep while two leeches on each temple were doing their duty. We fully coincide with the author that "the employment of opium in typhus is more

dreaded than it ought to be." We have recourse to it frequently with advantage, impressed, however, with the necessity of caution in its use, and with the propriety of refraining from its employment when lividity of the face, and other evidence of venous congestion, are present.

Dr. Murchison tells us he can confirm Dr. Graves' observation as to the occasional utility of belladonna as a sedative and soporific in cases of typhus, with contraction of the pupil. Henbane is mentioned, on the authority of Dr. Corrigan, and chloroform on the recommendation of Drs. Corrigan and Gordon, as substitutes for opium; but our author does not express any opinion as to their value. He thinks that musk and camphor have fallen into unmerited neglect. Gerhard and Huss testify to their great utility. Graves recommended them in combination with opium and tartar emetic; of the latter half-grain doses. Dr. Murchison, although bearing testimony to the value of tartar emetic and opium in typhus, under certain circumstances, does not go quite as far as our countryman. "When the delirium approaches to typhomania, or delirium tremens, the radial pulse is usually quick and feeble, the cardiac impulse diminished, and the first sound of the heart more or less inaudible." Here antimony appears to be contraindicated, and our main reliance must be placed on opium, in combination with alcohol and other stimulants. Dr. Graves recommended antimony and opium even in cases of this nature; and, in fact, whenever sleeplessness and delirium of any sort in typhus coëxisted. We thoroughly coincide with the author as to the contraindications; but we cannot agree with him even in his modified praise of tartar emetic in fever. He seems himself to have a wholesome terror of tartar emetic; for he says:—"The patient should be seen by the medical man *at least* three or four times in the day, as the symptoms may change, and require a corresponding alteration of treatment."

Tartar emetic we look on as a most dangerous remedial agent in typhus fever, which is a disease of debility, demanding stimulants frequently, even from an early period.

In Ireland, at least, tartar emetic has had its day. In truth, we do not know of any hospital physician in Dublin who administers it in typhus; and we should not refer to it if Dr. Murchison had not, to a certain extent, sanctioned its use. It ought to be sufficient indication of its having fallen into deserved disuse to mention that it is not even named by physicians whose experience in this disease is derived from the most extensive observation.

The mode of treating the state of stupor, tending to coma, pursued by our author deserves the best attention of the practitioner—elimination, particularly by the kidneys, stimulants to support the heart, strong coffee, dry cupping and mustard-poultices to the loins. He also thinks we may take a leaf out of the hydropathist's book, and apply the "wet compress" to the loins, particularly when the urine contains blood or albumen. As stimulants to the external surface, vesicating fluids are considered preferable to blisters; and we are of the same way of thinking; but we never apply either to the nape, always selecting the vertex and the forehead—parts not subject to pressure. The douche is recommended by Dr. Todd; which, according to him, "sometimes acts like a charm;" but it is only applicable in cases in which the lethargic state supervenes early, and before there is great exhaustion.

Of essential oil of valerian, and of phosphorus, Dr. Murchison has no experience. The valerian has been given by Barrallier in 172 cases, of which 135 were successful, 24 unsuccessful, and 13 doubtful. The dose was one minim every half hour, until five or eight minims were taken.

"Des individus plongés dans une profonde somnolence, dont rien ne pouvait les tirer, insensibles à tout ce qui se passait autour d'eux, après avoir pris le matin l'essence de valeriane, étaient le soir reveillés, repondaient aux questions qu'on leur addressait, et ce changement etait si imprévu, si etonnant, que pleseurs fois, j'ai entendu les personnes qui suivaient mes visites prononcer le mot de *resurrection.*"

Phosphorus (1-12th gr.) is recommended by Huss in the torpor and prostration of fever; but only when no delirium exists. Of the complications of fever bronchitis is the most common; and the directions Dr. Murchison gives as to treatment comprise the remedies which we have ourselves found efficacious—dry cupping, turpentine stupes, sinapisms; and, internally, turpentine. He also advises that alcohol and wine be given freely in those cases in which the air tubes are blocked up, owing to paralysis of the muscles of expiration. In such cases we have found brandy or whiskey much preferable to wine. There are exceptional cases, we are told, in which tartar emetic may be given with great benefit, "when the patient is strong and robust, and the pulse of good strength;" but he proceeds to caution us against using it when extensive bronchitis and hypostatic engorgement exist; for he observes, "antimony would only hasten the fatal termination," and we confess it does

not fall within our experience to meet with patients in any stage of typhus, with or without bronchitis, who are, "strong and robust."

When pneumonia exists, as a complication in typhus, the symptoms, our author tells us, "are of such an adynamic character that depletion and antimony are out of the question; the latter is only permissible under circumstances similar to those where it has been recommended in bronchitis." In our humble opinion tartar emetic is *never* permissible in the pneumonia of typhus. Stimulants, expectorants, turpentine, and acetate of lead are spoken favourably of; the latter has been found a valuable remedy by Strohl, of Strasbourg, and Dr. Bell, of Glasgow. No mention is made of the treatment by quinine, which we have no hesitation in recommending as the best.

Blistering the scalp, purgatives, saline diuretics, dry cupping over the kidneys, and the hot air or vapour bath are recommended when convulsions occur. The closest attention to the state of the bladder is also necessary. When tympanitis is present terebinthinate enemata and stupes are directed; and, in the event of their failure, turpentine, with sulphuric ether, internally. Excellent directions are given as to the avoidance of bed-sores, and their treatment when they occur. Erysipelas Dr. Murchison treats by stimulants, and muriated tincture of iron, and chloric ether (15 minims of the former and 10 of the latter, every three hours). When, in erysipelas of the face, the throat becomes affected, the nitrate of silver solution, or mur. tinct. iron, diluted with an equal quantity of water, should be applied. "When suffocation is imminent, from obstruction of the rima glottidis, tracheotomy holds out the only—although very slight—chance of saving life." We believe life might be more frequently saved than it is, in cases where the symptoms of œdema of the glottis present themselves in fever if the operation were performed at an earlier period. We have seen, within the last few days, a man who was operated on by Dr. M'Dowell, in the Hardwicke Fever Hospital, 15 years since, and who is still obliged to wear the tube.

Referring to the mental imbecility and mania, which are occasional sequelæ of fever, Dr. Murchison mentions that "it may be necessary, occasionally, to subject the patient to temporary confinement in an asylum." But knowing, as we have already stated, that the mental aberration is generally of short duration, we look upon this suggestion as injudicious.

(*To be continued.*)

# PART III.

# MEDICAL MISCELLANY.

*Reports, Retrospects, and Scientific Intelligence.*

## PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.[a]

### TWENTY-FIFTH ANNUAL SESSION, 1862-1863.

MR. HAMILTON, President.

*Cancer of the Stomach.*—DR. MAYNE said, the subject of his present communication was a female who was admitted into the Adelaide Hospital on the 1st of the present month. She gave her age as 35, but certainly looked a good deal more—she would have been taken to be from 40 to 50 from her appearance. The most prominent point of her case was the existence of an abdominal tumour, the central point of which corresponded, as nearly as possible, to the cicatrix of the umbilicus. It was as large as an orange; and there was an obscure pulsation, which for a moment led them to examine into the possibility of its being aneurismal. They very soon found that such was not is nature, for there was merely an upheaval of the tumour, without dilatation or lateral pulsation; there was no bruit on it, and the tumour itself was movable; and on its being displaced a little the pulsation disappeared altogether. The tumour was remarkably hard, firm, and irregular upon the surface—almost nodulated. It was very movable, and could be displaced considerably from side to side. On enquiring into the history of the case, the woman said she had been out of health for a considerable time. She had been long menstruating irregularly, and latterly the discharge had ceased altogether. Various dyspeptic symptoms had distressed her for months past, and she had suffered much from constipation, which required purgative medicine in large quantities to relieve it. In addition, the stomach was irritable. Usually she vomited once in the 24 hours, and then generally the

[a] These reports are furnished by Dr. R. W. Smith, Secretary to the Society.

vomiting came on at night. Her appearance was remarkably characteristic of malignant disease. She was wasted to the utmost degree, and was of a sallow, dingy colour. She had that peculiar expression and dried-in look which were so often found connected with cancer; and, taking her whole history and appearance into consideration, they had no difficulty in arriving at the conclusion that the tumour was malignant. The question was not so easily resolved as to whereabouts it was situated. The vomiting at first pointed to the stomach as its seat; but as far as he had seen of cases of this description, the tumour seemed to be lower down than usual. It was more movable, also, than malignant tumours of the stomach generally were; it was more superficial upon the abdomen than usual, particularly when the tumour was connected with the pylorus; and they, therefore, concluded that it was not in the stomach itself, but in the omentum. In the last conclusion we were wrong. On the 8th of the month, a week after her admission into the hospital, when going the rounds in the morning, he was told that she had begun to wander the evening before, and that during the night she had become delirious; and at the actual time of his visit, she was absolutely maniacal. Her skin and scalp were perfectly cool; the conjunctiva was bloodless; and the circulation, though quick, had nothing of an inflammatory character about it, and there was nothing indicative of any local deposit in the brain. They tried to allay the nervous excitement as best they could; but, on coming to the hospital the next day, he found that she had been so furiously delirious during the night that she disturbed the entire ward. For five days this state of delirium continued; on the 6th day she became more composed, but it was evidently the composure of exhaustion. She gradually sunk, and died on the 14th of the present month—seven days from the commencement of the delirium, and on the fourteenth day after her admission into the hospital.

The first point of importance in connexion with the case was the site of the tumour; and they found, on a *post mortem* examination, that the pyloric half of the stomach was converted into a cancerous growth. It was chiefly the hard variety of cancer—what Dr. Carswell has called scirrhoma. The parietes of the stomach were thickened to nearly three inches, and cut exactly like a piece of cartilage—gritty, under the knife. The pylorus itself was free; it was not contracted, as was usual in such cases. A very remarkable feature of the case was the adhesion between the transverse portion of the colon and the tumour. That portion of the colon which was in close contact with, or passed near the convex margin of the stomach was closely drawn to it and identified with it. The cecum was the largest he had ever seen, and reminded him of that of a horse. It was filled with feces. There was no trace of disease of the brain, or its membranes. All they could say about the brain was, that it seemed to be rather bloodless; its section was found to be paler than

natural, and the white substance contained fewer of the red dots produced by the cutting of blood-vessels than was usual. The result of their examination led them to think that the delirium, during the last days of life, probably arose from irritation, reflected to the brain from local disease; or, still more probably, from a defective supply of blood to the brain. The woman was emaciated to an extreme degree; the interruption of the digestive functions had impoverished the blood; and thus he accounted for the high excitement of the cerebral system previous to death. It was certainly a symptom which he had sometimes seen before, not exactly in cancerous disease, but more than once in phthisis. Patients who were greatly emaciated had become maniacal a few days before death; and in many of these cases he had failed to detect anything wrong with the nervous system; and in these he attributed the mania to the deficient supply of blood to the brain, in consequence of the long-continued interruption of the nutritive functions.—*January* 17, 1863.

*Aneurism of one of the Sinuses of Valsalva.*—Dr. Gordon exhibited the lungs and heart of a man who had been under observation in the Whitworth Hospital for one month. He was admitted on the 31st December, 1862; by occupation a porter; he was a tall well-made man, said his age was 34, but looked to be many years older. He was evidently suffering from a complication of cardiac and pulmonary disease; and the account he gave of his illness was, that having been for a long time accustomed to wear flannel, he, three months ago, suddenly left it off, and thus caught severe cold, and pains in his chest and arms, which he considered rheumatic. These pains have ever since continued more or less severe, but particularly acute down the left arm. Seven weeks ago he was suddenly seized with very acute pain in the left side of the chest, the seat of which he limits to a small space above the left nipple and to the left of the sternum. This pain has never since discontinued; while he is awake he is always conscious of its existence. Besides these pains in his chest and left arm, he complains now of incessant palpitation, and also of distress of breathing. This dyspnea, at all times more or less troublesome, becomes particularly so each night, when it amounts to more or less orthopnea; and of late he is obliged to pass each night sitting up in bed, as the only posture in which he can breathe with any freedom.

There was no difficulty in arriving at the conclusion that the patient laboured under permanent patency of the aortic valves. He had well-marked visible pulsation and tortuosity of all the more superficial arteries, with the "pulse of unfilled arteries" of Hope, and over the base of the heart was audible a particularly loud double *bruit de scie*. It was, moreover, evident that this affection was not of very recent date, for an increased area of precordial dulness, and the situation of the apex of the heart being much lower down than natural, proved that this organ, its

left ventricle in particular, was undergoing the alterations which take place when this abnormal condition of the aortic valves has existed for any considerable length of time, but there was also a very loud endocardial murmur taking the place of the first sound of the heart at its apex, indicating regurgitation of blood through a permanently open mitral orifice; and, if Dr. Gairdner's assertion be correct, the exact coincidence of the mitral murmur with the systole of the ventricle, showed that the incompetency of the auriculo-ventricular valves was due to the dilatation of the ventricle, and not to an originally diseased condition of the valvular apparatus. There were also evidences of engorgement of the lungs, in the blue lip and congested face, and the distended veins of the neck, and constant troublesome cough, with sanguineous but difficult expectoration, while the physical signs proved that there was not merely a turgid bronchial mucous membrane, but by the peculiar sharp crepitation which was audible, that there was, in different parts, more or less extravasation of sero-sanguineous fluid into the air vesicles of the lungs. The diagnosis then was clearly established, that there was regurgitation of blood through a permanently open aortic orifice into the left ventricle, which had consequently become hypertrophied and dilated, and that as a further consequence of this diseased condition of the ventricle, the auriculo-ventricular valve connected therewith had become inadequate, and allowed regurgitation into the left auricle, so retarding the circulation of blood through the lungs, and producing more or less permanent congestion of the pulmonic vessels. Still, notwithstanding the evidences of this great amount of organic mischief in the heart, and diseased state of the lungs, there were symptoms present which I did not consider were accounted for even by this great amount of disease. I allude principally—1st, to the localized pain towards the base of the heart; 2ndly, to the form of dyspnea under which the patient laboured—its paroxysmal character—its being accompanied with more or less of that distressing sensation which we term *angina;* and 3rdly, to that indescribable, but still well-recognized clinical observation, that he was evidently suffering more from cardiac dyspnea than from pulmonary dyspnea. We were constrained, therefore, to add to the diagnosis, that he also laboured under a more or less acute attack of endocarditis or aortitis.

This man had been walking about up to the time of his admission, I therefore hoped that the recumbent posture alone would have some good effect on the disease. I also applied a few leeches to the seat of pain, and covered the whole precordial region with a very light hot poultice, at the same time ordering calomel and opium, in moderate doses, every four hours. The effect of this treatment was, that he obtained very sensible relief from the dyspnea and from the pain. He slept tranquilly, and the pulse from 120 fell to 92 in the minute.

On the following day the precordial region was blistered, with still

further benefit, and the mercury was continued until his gums were made sore. There was not, however, any permanent improvement in the heart symptoms, and the congested state of the lungs did not sensibly diminish. On the 21st of January his strength began to give way; and for a few days he seemed to derive benefit from the free use of diffusible stimuli; but on the night of the 23rd he was sleepless all night; could not rest on the left side; on the following morning his pulse were 124; his respiration 44; his appetite gone, and he was perspiring copiously. There was no change in the physical cardiac phenomena; the lungs were more engorged. He again rallied considerably under the very free use of wine, camphor, and blisters; but on the 27th he was again seized with orthopnea, excessive cough, and bloody expectoration, profuse perspiration, faintness, and collapsing pulse. He was evidently labouring under an attack of pulmonary apoplexy, to which he slowly succumbed. He died on the morning of the 30th of January, 1863.

Dr. Gordon exhibited the lungs, which presented a well-marked example of the ordinary so-called pulmonary apoplexy. Several firm hard nodules were found in both lungs, particularly in the lower part of the left lung. Some were on the surface, and of a blue colour; others deep in the substance of the lung; and a section of these nodules showed them to be of excessively black colour, and accurately circumscribed. The heart was also exhibited; it was very much enlarged, and weighed 14 ounces. Both ventricles were much dilated, and the walls of the left much hypertrophied. The ascending and transverse portions of the aorta were extensively studded with small atheromatous spots.

An aneurismal tumour sprung from the aorta, at the upper boundary of the sinus corresponding to the anterior valve, and passed downwards and inwards; it was the size and shape of half a large hen-egg, and projected slightly into the right ventricle, an inch below the pulmonic valves. The anterior aortic valve had given way about its centre, and the aneurismal tumour had in this way burst into the mouth of the left ventricle; the other two valves were perfectly sound; the tumour was completely devoid of coagula, but a small amount of fibrin was still visible around the ragged edge of the torn valve, and within the tumour in its vicinity. The left auriculo-ventricular opening was wider than natural, had evidently allowed free regurgitation, but there was no disease of its constituent parts.

What physical signs this aneurism caused before it gave way we cannot pronounce; there most probably existed a bruit synchronous with the second sound of the heart, and caused by a disintegration of the relapsing column of blood, part of it being diverted into the aneurismal sac. I do not see what room there was for further signs. There was no interruption to the column of blood leaving the left ventricle, and therefore no systolic murmur; and there were not any signs of unfilled arteries,

because, although an ounce, by measurement, left each column of blood in the aorta to fill the aneurismal sac, it was replaced by the same amount which had remained from the previous systole.

There can be no doubt but that the occurrence which caused the accession of such severe symptoms, seven weeks before his admission into hospital, was the rupture of the aortic valve, and accordingly, from the time of his admission, a systolic bruit marked the disintegration of the column passing into the aorta, and the more than usually characteristic signs of unfilled arteries proved that a singularly large quantity of blood relapsed into the left ventricle.

The "Transactions of the Pathological Society" record several cases of aneurism affecting the aorta in this situation. Where their history is recorded it appears to have been similar to the case of O'Keeffe, very obscure until the rupture of a valve or other consequences gave rise to angina, orthopnea, pain in the cardiac region, with the physical signs of inefficient aortic valves. In a case exhibited by the late Professor Harrison the tumour, as in the present instance, projected into the pulmonary artery, and nature had taught the patient to relieve the consequent dyspnea by lying upon his face, and so placing the sac in a less favourable position for receiving, or, at all events, for retaining the returning column of blood.

The aneurism in this case was evidently of very long duration; its edges were smooth and rounded; the communication with the aorta large, and the lining membrane of the aorta could be distinctly traced throughout, giving to it the title of "true aneurism."

It is very remarkable in how many cases of aneurism in this situation the tumour enlarges *downwards*, its tendency being usually to open into the pericardium, or into some one of the cavities of the heart, according to the particular aspect of the aorta, from which it springs. In the present instance, the *post mortem* examination does not show the capacity of the right ventricle, towards which the aneurism was tending, to have been in the least diminished by the projection of the tumour; but this is simply owing to the absence of deposit of fibrin, the sac having been emptied at each systole of the heart; but there can be little doubt but that during life it formed an obstacle to the rush of blood from the right ventricle, and that it was by this ventricle principally that it was emptied—the aorta having evidently lost much of its contractile power, and the contraction of the walls of the left ventricle, or the blood escaping from it, being unable to exercise much power over it. It was obviously the retrograding current which was producing the enlargement and distension of the sac, and causing its growth in a direction exactly opposite to that in which an aneurismal tumour usually increases.—*January*, 31, 1863.

*Acute Suppurative Meningeal Inflammation.*—Dr. Gordon laid before the Society a well-marked example of very extensive suppurative

inflammation of the arachnoid membrane. The purulent matter was found in very large quantity over the entire convex surface of the brain, but chiefly over the right hemisphere, where it lay in such amount as to cause considerable depression of this portion, and at first gave to the hemisphere the appearance of having collapsed, from a collection of matter having escaped from its interior; but a section of the brain showed its substance to be rather paler and firmer then natural. Pus was also diffused in considerable quantity over the internal aspect of the cerebral hemispheres and on the tentorium, but the inferior surface of the brain was comparatively free. The roots of the nerves were not implicated: there was in this situation merely some slight opacity of the arachnoid membrane. There was no purulent effusion into, or other disease of the lateral or other ventricles. The pia mater in general was scarcely vascular. The purulent collection was found to be altogether external to the brain, but retained *in situ* by the delicate although firmly organized bands of lymph. The cranial skeleton seemed to be perfectly healthy. There was no sign of wound or fracture, nor was there any evidence of disease in the temporal bones or the auditory apparatus. The subject of these diseased appearances was a young woman, 29 years of age, who had led a very dissolute life. She was admitted into hospital on the 12th of January, complaining of general langour, debility, and great headache. These symptoms were preceded by a severe rigor five days previously, and she had since had repeated shiverings. She was exceedingly pale and anemic, had a heavy stupid look, and seemed unwilling to answer any questions, and was apparently quite reckless of her state. Her pulse was quick; her tongue white, covered with a creamy fur; her skin hot and dry. She had occasional attacks of vomiting. Slight pressure seemed to increase the pain in the head much. Her friends state that three days after she took ill she had a convulsive fit, which continued, with intermissions, for half an hour; after this she lost completely the power over the lower extremities. There were no physical signs of disease in heart or lungs. 15th. The lower extremities continue quite powerless. She passes urine freely, and the bowels act regularly. The pain in the head is still very severe and is referred chiefly to the left side. Pressure on any part of the head seems to hurt her; but there is no puffiness or swelling of any part of the scalp; the stomach is still irritable; she is becoming drowsy; her intelligence is perfect but slow; pulse 100.

The case was considered to be one of abscess in the brain, and the usual means were adopted to bring the system under the influence of mercury, while her strength was very fully supported. 17th. Pain in head increased, and also the irritability of the stomach. 20th. She woke from sleep this morning screaming, and I found her with her hands clasped tightly across her head, still crying loudly with pain. The

paralytic condition of the lower extremities is most profound, but there seems to be no nervous lesion elsewhere; more energetic means were used to mercurialize the system, and counter-irritation was freely adopted. 21st. Pain somewhat abated; she appears to be in a drowsy state; if spoken to loudly she answers coherently, but does not reply until after a few seconds have elapsed; right arm apparently powerless. January 22nd. No difference in the symptoms; passed a very small quantity of turbid urine about 11.30 a.m., not having passed any since eight o'clock yesterday morning. She is insensible, lies on her back, does not answer when spoken to; pulse becoming slow, 76; pupils sluggish. 24th. Still comatose, cannot be roused; left arm and leg completely paralysed; draws up both extremities of right side when irritated; feces and urine come away involuntarily; the feces are very fetid; pulse small and weak. 26th. Seems to be sinking rapidly; lower half of the right foot has rapidly become gangrenous; she lies quite powerless in bed; sphincters relaxed; mucous rattle over chest and in larger bronchi; about midnight had convulsive twitchings of the flexors of the forearm and hand of left side; the other limbs not similarly affected; all the limbs are cold. She died, comatose, on the 27th.

Cases of true traumatic suppurative meningitis are not of common occurrence. They are usually in some measure connected with venous inflammation. We therefore examined the longitudinal and other sinuses, but they did not contain any abnormal appearances; neither was there any pulmonary disease. The heart had undergone some fatty degeneration, and the kidneys were becoming granular, although there was not any albumen detected in the urine.

On reviewing the history of this case, and the *post mortem* appearances, I am of opinion that the nature of the disease was, that the patient had on more than one occasion suffered from meningeal inflammation or irritation, which caused the development of the organized bands which were found so extensively diffused; that at last an acute attack supervening, influenced partly by the renal disease and partly by the altered condition of the serous membrane, the product, as in cases of secondary pleuritis or pericarditis, was purulent effusion, which is inevitably fatal, at least whenever it is poured out on the brain in quantity anything like to that in the present instance.

The mortification of the foot, which took place in this patient, was of that form described by Copland, as arising from exhaustion of organic nervous power. Its appearance was not preceded by any symptom of inflammatory action—certainly not by any increased heat or sensibility of the part—and was directly owing to the loss or diminution of supply of the organic or ganglionic nerves to the limb; the opposite extremity was rapidly becoming cold, and would soon have been involved in the same destructive process if the patient had longer survived. The arteries of

the right lower extremity were very carefully examined, but there was no clot or diseased appearance within them, except at the very terminal extremities, where they had a reddish appearance apparently from imbibition, being surrounded with a copious reddish serous effusion. There was a great deal of fat deposited on the surface of the heart, which encroached on the muscular structure, but this latter did not appear to have undergone any fatty degeneration; all its chambers were filled with soft black coagula; both kidneys were small and contracted.—*January* 31, 1863.

*Scrofulous Tubercle in the Cerebellum and Lungs; Cancerous Degeneration of the Pleura.*—Dr. GORDON detailed the following case, and exhibited the recent specimens. John Byrne, aged 30, a wine porter, had, for a long time, had cough, constant dragging pain in his left side, difficulty of breathing, occasional hemoptysis, and recounted also the usual array of symptoms which indicate fully developed hectic fever.

The slowness with which these symptoms supervened allowed him to continue at his employment until about two months ago, when emaciation began to progress very quickly, and he became unable to walk, even short distances, from a tottering in his gait and from rapidly increasing debility. Shortly after this he began to suffer from great pain in his head, which he could not refer to any particular spot, and which was always most severe at night. About this time also he observed that his memory was rapidly failing. He was admitted into the Whitworth Hospital, December 16, 1862. He had a very peculiar, anxious expression of countenance, which again was of a waxy anemic hue, and this extended over all the surface of the body; he had latterly been living in bad air, and was badly nourished; he never had constitutional syphilis; he complained most of cough and the pain of his left side, and, being greatly emaciated, the contraction at the lower part of the left side of his chest was easily observable; the crepitation audible in the upper part of the left lung, and the interrupted respiratory murmur in the right elicited the diagnosis that the general symptoms were due to pulmonary phthisis, and the contraction of the side was supposed to be owing to an old attack of pleurisy. He was ordered generous diet and some tonic medicine; but before he was many days in hospital the chest symptoms were totally forgotten in the severity of the deep-seated headache which again came on. There was no direct paralysis, but his gait was tottering, and, as he said himself, "he could not direct his limbs." He was mercurialized, and, for a short time, experienced very decided relief; but the headache again recurred, and was now accompanied by great irritability of the stomach; this continued for about four days, when he again got better, and was up going about the ward, the pain in the head now and then returning. On the 17th of January, while eating his dinner, he was

seized with an epileptic attack; his face was deeply flushed; he frothed from the mouth, and during the early part of the attack was perfectly unconscious; but before it had ceased he was able to articulate a few broken sentences; he said afterwards that a morsel had gone into his windpipe. About a week afterwards he was seized with a similar attack, more severe and of longer duration than the former, and which left him weaker; still he was up, and ate and drank with appetite. On the 26th he had another attack of vomiting—passing a sleepless night; and again, after exactly another week's interval, he was seized with another epileptic fit, which was of very short duration, but in which he died.

The diseased appearances in the brain were confined to a single scrofulous tubercle, but of large size, oblong—an inch long, by half-inch broad—which occupied the right lobe of the cerebellum; the brain substance around it was much softened, the pia mater very vascular, and the arachnoid opaque in its vicinity.

In the upper portion of the right lung were a few solitary tubercles of the same nature. The upper lobe of the left lung contained several small grey indurated tubercles, and the lung substance around them was rapidly breaking down, while the lower lobe of the lung was almost entirely effaced by a hard scirrhous mass, which apparently had had its origin in the pleura, but was now pressing on the lung, obliterating the air vesicles, and also by various bands spreading into its substance. A section of it showed a very hard, striated cancerous growth, and it was of very considerable size, having rendered useless nearly the entire lower lobe of the left lung.

Dr. Gordon observed that tubercles in the brain or cerebellum are not very common in the phthisis of adult life; but that we have no reason to suppose that, in the present instance, the general law was departed from that these growths seldom give rise to any prominent symptoms, unless, or until more or less, extensive softening of the surrounding structure supervenes. The ramollissement which existed in this case was very extensive; and from its reddish colour was, we may presume, more or less of an active nature—hyperemic rather than anemic softening.

The case was also an example of the symptoms of phthisis, being, in some degree, masked, as is often the case when the thoracic affection is complicated with cerebral disease.

It will be observed that the loss of the coördinating power was the peculiarly prominent symptom, pointing out beforehand that the seat of disease would be found situate in the cerebellum.

Not the least important feature in this case was the combination, in the same individual, of cancerous and scrofulous disease. The scrofulous disease was general and well-marked; the cancerous disease was apparently local, and was of that form which is followed by contraction of the

side, of which I have already published[a] a well-marked instance, occurring at the upper part of the left lung, and, as is usually the case, in a person of about the same age as was the patient Byrne.

To those who deny the possibility of the two diseases coëxisting, I can only grant the conclusion with which Prof. Haldane closes his last paper on the subject, that the two diseases never actively progress together. In the slowness or nonactivity of its progress this scirrhoma forms a remarkable contrast to the more active and rapidly-spreading cerebriform cancer of the lung.—*February* 7, 1863.

*Pyemia.*—Dr. Fleming said that the case connected with the morbid specimens, which he wished to lay before the society, was that of a man aged 38 years, of intemperate habits. About a fortnight before his admission into the Richmond Hospital he received a wound of the scalp, inflicted by a policeman's baton; and a day or so before he came to the hospital, he was attacked with a rigor, followed by fever, when erysipelas of the face showed itself. The condition of his pulse early attracted notice. Three beats or so would strike in tolerably steady succession, then an intermission would occur, followed by a sort of weak flutter, when again the same triple beat would occur, followed by the same indistinct action. On examining the heart, all the ordinary physical signs of mitral valve disease were discovered, with the exception of "bruit." The impulse was violent and widely extended. As regarded the progress of the erysipelas, it presented no peculiarity; but, when it passed off, it was observed that there was not a proportional subsidence of the constitutional symptoms. On the eighth day from the first appearance of the local eruption, violent pain seized the left knee, followed by acute synovitis, with considerable effusion into the joint. Treatment relieved his suffering; but after a few days a fresh train of symptoms showed themselves. Preceded by the local signs of capillary phlebitis, a large collection of purulent matter formed in the calf of the corresponding leg. This was followed by another in the front of the thigh, behind the extensor muscles, and another in the upper and inner part of the thigh in the opposite leg. A similar collection formed in its anterior part. It was remarkable that neither rigors nor perspirations were present throughout the formation or progress of these purulent deposits. The constitutional symptoms were of a low typhoid character. There was occasionally cerebral disturbance, but not to a great extent. The patient died six weeks after the supervention of the symptoms of pyemia. The interior of the knee joint showed complete destruction of the cartilages of incrustation, and the ends of the bones smeared with purulent matter. In the heart was found contraction of the left auriculo-ventricular opening, with a rough and thickened state of the valves.—*February* 7, 1863.

[a] See Dublin Hospital Gazette, N. S., Vol. iii., p. 225.

*Cancer of the Rectum and Liver.*—Dr. Edward Hamilton said the preparations he exhibited were illustrative of some of the effects of malignant disease of the lower end of the rectum.

A horse policeman, aged 37 years, was admitted into the constabulary ward of Steevens' Hospital, and his general appearance partook strongly of all the indications of chronic disease, and that, too, of a malignant nature. His face presented the peculiar characteristic hue usual in such cases, and indicated a considerable degree of suffering and pain; he was emaciated, and presented the evidences of prostration of strength generally. He stated that until three months before his admission into the hospital he enjoyed tolerable health, and discharged the ordinary duties of a mounted policeman without any inconvenience; and this fact had been verified by a very intelligent pupil, Mr. Swan, who saw him in the country discharging those duties. He stated, however, that he suffered from one or two attacks of constipation, and those attacks frequently lasted two or three days. He also stated that towards the close of the autumn he suffered from slight shivering, followed by sweating, for which he was unable himself to account. That three months before his admission he began to experience a sensation of burning pain and soreness in the anus, and that this continued for some time, not very much attracting his attention, but was followed by very severe pain during defecation. He subsequently found these symptoms becoming very much increased and exaggerated, and a bloody discharge occurring from the anus. He was placed under medical treatment, and continued so for three months, until subsequently he was sent to the constabulary ward of Steevens' Hospital. His appearance, as already stated, at once indicated the existence of some organic, and, more than probably, malignant disease. On examining the anus, its margin was found red, excoriated, fissured, and discharging an exceedingly offensive matter. On passing the finger into the rectum, there was found almost immediately above the orifice, a distinct, hard, contracted ring. The introduction of the finger necessarily caused the patient much suffering, but still the finger could be introduced freely into the bowel; and on passing it up above the contraction, the peculiar velvety, rugose feel, natural to the rectum, could be felt very distinctly, but there appeared to be considerable dilatation above it. Further examination showed that the glands in the groin were enlarged, hard, and felt almost like marbles under the skin. He also stated that he suffered at times from lancinating pain in those glands. He also complained of some pain on pressure in the left iliac region; indeed generally he experienced pain in the abdomen if the bowels did not act. As long as his evacuations were liquid he passed them freely enough; but if any small, hard mass of matter came it was generally difficult to pass, and gave him pain in the abdomen. There was no doubt as to the exact nature of the case. He suffered clearly from malignant ulceration of the lower

extremity of the rectum, involving the verge of the anus. The treatment of the case was, of course, merely palliative. He had nutritious food and wine, and opium almost *ad libitum*. The opium pills were placed by his bedside, and he would take three or four of a night before he could procure sleep. At the suggestion of his colleague, Dr. Wilmot, they gave him fluid extract of taraxacum, for the purpose of keeping his evacuations as moist as possible. Things continued in this state without very much alteration; he would somewhat improve occasionally, and would be able to sleep at nights, but still suffered very much. After some days his stomach became irritable, and he neglected his food, and there was great difficulty in procuring a sustenance which would rest upon his stomach. Things went on in this way, with a sort of changeful relief, until the 16th of January, about a fortnight after his admission into the hospital, which was on the 31st of the preceding December. About the 16th of January he was informed by his dresser, Mr. Mussen, that on the previous night the man had a smart attack of hemorrhage, and that large clots of blood were discharged from the bowel; and evidences of it were found on examination. The hemorrhage, however, had ceased when he saw him, having been checked by applications of diluted sulphuric acid. In the course of a day or two more the irritability of the stomach became very much increased, and the appearance of his skin now became decidedly marked with jaundice. An examination over the region of the liver now showed marks of disease, distinct, hard, and defined, as if evidently infiltrated with some hard, dense structure. The jaundice continued increasing, and the irritability of the stomach was such as to cause him to neglect almost every kind of food, until at last he sank and died on the 11th of February, about six weeks after his admission. The *post mortem* appearances explained very satisfactorily the course and progress of the symptoms. On opening the abdomen, the first thing that struck them was the existence in the pre-peritoneal areolar tissue of an extensive layer of purulent matter. From the abdomen a considerable quantity of fluid, of an orange colour, escaped. Then there appeared the great enlargement of the liver, visible in the preparation. The organ was adherent to the under surface of the diaphragm, and it was completely infiltrated with the structure which they saw, and which, he had little doubt, was a cancerous deposit. It did not exactly present the indented appearance which they saw in Farre's tubercle; the infiltration was very general through its tissue. The omentum and peritoneum were thickened, and the mesenteric glands seemed to participate in the same disease which penetrated the liver. Passing down to the rectum, they found appearances of a well-marked ulcer, involving the entire cylinder of the gut, and, he thought, occupying a lower position than was usually assigned to it. The ulcer was irregular on the surface, and was now, of course, a good deal discoloured by time.

The large valve of Houston and its submucous tissues were completely

infiltrated with blood. He suffered no symptom of urinary disease; the bladder did not seem to participate in the affection observed elsewhere, either by irritability or by structural change. There was immense thickening of the coats of the bowel, which was usual in such cases; but there was also a very remarkable structure occupying the submucous tissues, namely, a peculiar lardaceous deposit like that sometimes seen in cancer. When this substance was subjected to the action of acetic acid, the microscope displayed cells crowded with nuclei. The inguinal glands were very hard, and were infiltrated with cancer. Such was the history of the case. Were they to regard the disease of the liver as pre-existing and preceding the disease of the rectum, or were they to regard it as the consequence of it? If they were to take the liver as becoming impregnated by cancerous matter through the portal venous system, it would afford a very easy explanation of the mutual bearing of one disease upon the other. But he could hardly conceive that such an enormous amount of infiltration of the liver could have taken place in so short a time; and he rather inclined to the opinion that the disease of the liver pre-existed in a latent state; and it was more than probable that the disease of the rectum was a similar result produced by the same constitutional diathesis. He thought it was hardly in accordance with strict pathology to suppose that so considerable an amount of infiltration would take place in the course of a couple of months.—*February* 14, 1863.

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## PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.[a]

### TWENTY-FIFTH ANNUAL SESSION, 1862-63.

### Dr. Beatty, President.

Dr. Halahan read the following paper on *Puerperal Scarlatina* :—

Much as has been already said and written upon the all-important subject of puerperal fever, and deeply as Dr. Denham has entered into it in his valuable essay, I am far from regarding the subject as exhausted; an opinion which, I am sure, is, to some extent, at all events, shared by all in this room, and forming, I trust, an excuse for again bringing the matter under your consideration. I enter upon the enquiry with the hope that important light may be thrown, not upon the diagnosis, or upon the question of contagion or non-contagion, but upon the more important question as to the *mode of treatment* which, judging from its results, is the best to be pursued. I wish, also, to confine myself, at present, to a particular form of the disease (the worst, as being confessedly the most

[a] These reports are supplied by Dr. Geo. H. Kidd, Secretary to the Society.

fatal)—namely, the appearance of the scarlatina eruption, accompanied with fever and sore throat, and not uncommonly associated with peritonitis.

I shall give you a sketch of 25 cases of this form of the disease, avoiding minute particulars, which might exhaust your patience, and throw no additional light upon the subject. Of these, 19 died and six recovered. I shall first give the outlines of those cases which terminated fatally:—

The first was three hours ill—one hour and a-half being occupied by the second stage—the child, a boy, her eighth; she was greatly affected with head symptoms. On the fifth day she got three ounces of wine, and was sent to the Hardwicke Fever Hospital, where she died on the seventh day after delivery. We found out, afterwards, that her children had scarlatina, and one, at least, had died of it.

The second was 24½ hours ill—one hour and 10 minutes in the second stage—the child, a female, her first; she had a rigor on the second day. She was unmarried; got no wine; was sent to the Hardwicke Fever Hospital on the fourth day, where she died the next, it being the fifth day after parturition.

The third was 18 hours ill—one hour in the second stage—the child, a male, her first. On the morning of the third day complained much of tenderness over the uterus, for which she was leeched; she got four ounces of wine this day. On the morning of the fourth day, there still being a good deal of tenderness over the right side of the uterus, 10 more leeches were applied thereto, and, at the same time, she was ordered two ounces of wine. In the evening she was sinking, and was ordered three ounces wine. She died the next day, being the fifth after delivery.

The fourth was 26 hours ill—two hours and a quarter in the second stage—the child, a female, her first. She had bronchitis on admission; quiet pulse from time of delivery; much mental depression. On morning of second day ordered wine—four ounces; in the evening the wine was ordered to be continued. On the morning and evening of next day the same quantity of wine ordered. On the fourth day she was sent to Cork-street Fever Hospital, at the same time being given three ounces wine. She died the next day, the fifth.

The fifth was five and three-quarter hours ill—one and three-quarters in the second stage—the child, a girl, her seventh. On the evening of third day ordered wine—three ounces; on the evening of fourth day two ounces of wine; on the morning of fifth day ordered four ounces of wine, and in the evening three ounces; on the morning of sixth day six ounces of wine, and in the evening four ounces; on the morning of seventh day, sinking fast, ordered eight ounces of wine; died this day.

The sixth was 15 hours ill—two and a-half in the second stage—the child, a female, her third, presented with one foot; she was ill of the

disease on admission. Early on second day complained much of tenderness over the left side of the uterus, to which place 10 leeches were applied; the pain still continuing, in three hours afterwards 12 more were put on, she, at the same time, being ordered four ounces of wine. She sank shortly afterwards.

The seventh was 14 hours ill—one and three-quarters in the second stage—the child, a male, her first. Complained greatly of pain over the uterus on the second day, for which she was leeched. On the evening of the fourth day ordered two ounces of brandy; on the morning of the fifth day ordered six ounces of wine, and in the evening four ounces of brandy. She died shortly afterwards; she was unmarried.

The eighth was nine hours ill—seven in the second stage—the child, a female, her first; on the second day she had a rigor. On the evening of the fourth day ordered four ounces of brandy; on the morning of the fifth ordered eight ounces wine; at three o'clock in the afternoon ordered four ounces more of wine, and in the evening eight ounces; on the morning of the sixth day ordered eight ounces wine, and in the evening 12 ounces; on the seventh day the same quantity of wine was administered; on the eighth day 16 ounces were given; on the ninth day 14 ounces of wine were ordered; on the 10th day 16 ounces; on the 11th day eight ounces; on the 12th day 10 ounces; on the 13th day 12 ounces; on the 14th day 12 ounces of brandy; and on the 15th day she died.

The ninth was 26 hours ill—two in the second stage—the child, a female, her first. She was unmarried, and suffered much from head symptoms. Twenty-two hours after delivery, ordered six ounces wine, and in the evening the same quantity; on the morning of the third day ordered six ounces of wine, and in the evening four ounces of brandy; on the morning of the fourth day ordered six ounces of brandy, and in the evening the same quantity of it. She died shortly afterwards.

The 10th was $10\frac{1}{2}$ hours ill—came in in the second stage—the child, a male, her fifth; she was maniacal. On the third day ordered three ounces of wine, and in the evening nine ounces; on the morning and evening of fourth day ordered four ounces each time; on the morning of fifth day ordered four ounces of wine. She died this day.

The 11th was six and a-half hours ill—one in the second stage—the child, a boy, her third; she had bronchitis on admission; she had no sore throat. On the third day she was ordered four ounces of wine, and the same quantity on the fourth; on which day she died.

The 12th was $12\frac{1}{2}$ hours ill—one and a quarter in the second stage—the child a male, her third; she was unmarried. On the fourth day she got four ounces of wine. She died the next day.

The 13th was 18 hours ill—three in the second stage—the child, a boy, her sixth, presented with the breech; she suffered much from

her chest. On third day ordered three ounces of wine; on fourth day eight ounces of wine; on fifth day seven ounces of wine; on sixth day 12 ounces of wine; on seventh day she died.

The 14th was 27 hours ill—four and a half in the second stage—the child, a female, her first; ill of the disease on admission; she was not married. On second day ordered six ounces of wine, but sank this day.

The 15th was three hours ill—a quarter of an hour in the second stage—the child, a boy, her seventh; ill of the disease on admission. Ordered six ounces of wine on second day; sank shortly afterwards.

The 16th was 19 hours ill—had a narrowing of the pelvic brim—and, never having had a child born alive, was most anxious that this one should be saved, if it were at all possible. The membranes had ruptured some short time before admission. The os being nearly fully dilated, and it being her fifth pregnancy, she was put under the influence of chloroform immediately after her placing herself under our care; as we were aware of the deformity, and if the child were to be saved, we had no time for delay. The moment it was practicable Dr. Denham introduced his hand, and performed the operation of version with perfect and complete success, the child, a boy, being born alive. She got into a great state of excitement, and became maniacal. She complained much of tenderness over the uterus, for which she was leeched. On the second day she received 10 ounces of wine; on the third day she died.

The 17th was 23 hours ill—seven and a-half in the second stage—the child, a boy, her first; she was unmarried. On third day ordered four ounces of wine; on fourth day ordered 16 ounces of wine; on fifth day got six ounces of wine and eight ounces of brandy; died on the sixth day.

The 18th was 23 hours ill—three and a-half in the second stage—the child, a male, her first; she became maniacal, not being married. On the third day ordered four ounces of wine; on the fourth day 16 ounces of wine; on the fifth day six ounces of wine and six ounces of brandy; on the sixth day 10 ounces of brandy; on the seventh day 12 ounces of brandy; and on the eighth day she died.

The 19th was four and three-quarter hours ill—one and three quarters in the second stage—the child, a boy, her eighth. On the third day got six ounces of wine; on the fourth day 12 ounces of brandy; on the fifth day 14 ounces of wine; on the sixth day she died.

As I have, more than once, made use of the terms morning and evening, I would here explain that it was at the hours of 9½, a.m., and 7, p.m., that we visited the patients.

## *Nineteen Fatal Cases of Puerperal Scarlatina.*

| No. | Hours in Labour | Length of 2nd stage | Sex and state of Child now born | | No. of Pregnancy | Presentation | Position of Head | Mode of Delivery | No. of ounces of Wine given each day after Delivery | | | | | | | | | | | | | | No. of ounces of Brandy given each day after Delivery | | | | | | Social State | | Day of Death after Parturition | First Day on which Fever appeared after Delivery |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | hours | M. | F. | | | | | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 3rd | 4th | 5th | 6th | 7th | 14th | Married | Single | | |
| 1 | 3 | 1½ | 1 | – | 8th | Head | 4×1 | Natural | – | – | – | – | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1 | – | 7th | 3rd |
| 2 | 24½ | 1⅙ | – | 1 | 1st | Head | 3×2 | Natural | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1 | 5th | 2nd |
| 3 | 18 | 1 | 1 | – | 1st | Head | – | Natural | – | – | 4 | 8 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1 | – | 5th | 2nd |
| 4 | 26 | 2¼ | – | 1 | 1st | Head | 3×2 | Natural | – | 8 | 8 | 6 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1 | – | 5th | 1st |
| 5 | 5¾ | 1¼ | – | 1 | 7th | Head | 3×2 | Natural | – | – | 3 | 2 | 7 | 10 | 8 | – | – | – | – | – | – | – | – | – | – | – | – | – | 1 | – | 7th | 3rd |
| 6 | 15 | 2½ | – | 1 | 3rd | One foot | – | Natural | – | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1 | – | 2nd | From time of delivery |
| 7 | 14 | 1¾ | 1 | – | 1st | Head | 4×1 | Natural | – | – | – | – | 6 | – | – | – | – | – | – | – | – | – | – | 2 | 4 | – | – | – | – | 1 | 5th | 2nd |
| 8 | 9 | 7 | – | 1 | 1st | Head | 3×2 | Natural | – | – | – | – | 20 | 20 | 20 | 16 | 14 | 16 | 8 | 10 | 12 | – | – | 4 | – | – | – | 12 | 1 | – | 15th | 2nd |
| 9 | 26 | 2 | – | 1 | 1st | Head | – | Natural | 6 | 12 | – | – | – | – | – | – | – | – | – | – | – | – | 10 | 6 | – | – | – | – | – | 1 | 4th | 1st |
| 10 | 10½ | – | 1 | – | 5th | Head | – | Natural | – | – | 12 | 8 | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1 | – | 5th | 2nd |
| 11 | 6½ | 1 | 1 | – | 3rd | Head | – | Natural | – | – | 4 | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1 | – | 4th | 1st |
| 12 | 12½ | 1¼ | 1 | – | 3rd | Head | – | Natural | – | – | – | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1 | 5th | 2nd |
| 13 | 18 | 3 | 1 | – | 6th | Breech | – | Natural | – | – | 3 | 8 | 7 | 12 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1 | – | 7th | 3rd |
| 14 | 27 | 4½ | – | 1 | 1st | Head | 4×1 | Natural | – | 6 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1 | 2nd | From time of delivery |
| 15 | 3 | ¼ | 1 | – | 7th | Head | – | Natural | – | 6 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1 | – | 2nd | From time of delivery |
| 16 | 19 | – | 1 | – | 5th | Head | 4×1 | Version | – | 10 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1 | – | 3rd | 1st |
| 17 | 23 | 7½ | 1 | – | 1st | Head | – | Natural | – | – | 4 | 16 | 6 | – | – | – | – | – | – | – | – | – | – | – | 8 | – | – | – | – | 1 | 6th | 2nd |
| 18 | 23 | 3½ | 1 | – | 1st | Head | – | Natural | – | – | 4 | 16 | 6 | – | – | – | – | – | – | – | – | – | – | – | 6 | 10 | 12 | – | – | 1 | 8th | 2nd |
| 19 | 4¾ | 1¾ | 1 | – | 8th | Head | 3 | Natural | – | – | 6 | – | 14 | – | – | – | – | – | – | – | – | – | – | 12 | – | – | – | – | 1 | – | 6th | 2nd |

I shall now briefly recapitulate:—Nine were in their first pregnancy; three in their third; two in their fifth; one in her sixth; two in their seventh; and two in their eighth. There were 12 boys and seven girls born. The presentations were—a half breech, a breech, and heads. One was delivered by version; one, at least, had, beyond a doubt, scarlatina in her house, as one of her children died of it; three, at all events, were ill of the disease on admission; one had no sore throat; seven were unmarried. Three died on the second day; one on the third; two on the fourth; six on the fifth; two on the sixth; three on the seventh; one on the eighth; and one on the 15th. Two only had rigors, which occurred, in both cases, on the second day. The treatment included anodynes, alteratives, diaphoretics, astringents, tonics, stimulants, applying cold lotions and blisters to the shaved head or back of the neck—in fact, all remedies were tried without avail.

Having said so much about those who, unfortunately, died of this fearful malady, I shall, with pleasure, change the scene, and detail some of the particulars of the cases which recovered. The first that I shall mention occurred in the Mountjoy Female Prison, where I was called in to attend it, through the kindness of my friend, Dr. Banon. She was 72 hours ill—six in the second stage—the child, a boy, her first; was delivered by the forceps; was unmarried. She was given 12 ounces of wine the day of her delivery; on the second day 16 ounces; on the third and fourth days 18 ounces; on the fifth day 16 ounces of wine, together with eight ounces of brandy; on the sixth, seventh, eighth, ninth, and 10th days, 18 ounces of wine and 8 ounces of brandy; on the 11th and 12th days 18 ounces of wine and four ounces of brandy; on the 13th, 14th, 15th, and 16th days, 14 ounces of wine and four ounces of brandy; on the 17th, 18th, 19th, and 20th days, 14 ounces of wine and two ounces of brandy; from this day till the 27th day 14 ounces of wine; and from that day six ounces; she, at the same time, received large quantities of strong beef tea and chicken broth. The medical treatment was very little, indeed—nothing to boast of.

The second was 14¾ hours ill—4½ in the second stage—the child, a male, her first; she had bronchitis and metritis, for which she was leeched. On the third day she got four ounces of wine; on the fourth and fifth days eight ounces each day; on the sixth day six ounces; on the seventh, eighth, and ninth days, eight ounces; on the 10th day six ounces; on the 11th day seven ounces; and on the 12th day six ounces of wine.

The third was 21 hours ill—one hour in the second stage—the child, a boy, her first. On the eighth day she got four ounces of wine; on the ninth, 10th, and 11th days, she got five ounces; on the 12th she got six ounces; and from the 13th day to the 27th five ounces of wine.

The fourth was five hours ill when she aborted, she being between the fifth and sixth month of her fifth pregnancy; the attack was very slight.

The fifth was 40 hours ill—10 in the second stage—the child, a male, her first, was extracted with the aid of the forceps. She got six ounces of wine on the third day; on the fourth day four ounces of wine and two ounces of brandy; on the fifth day 10 ounces of wine; on the sixth day seven ounces; on the seventh day five ounces; and on the eighth to the 27th day two ounces of wine each day.

The sixth was 23 hours ill—nine in the second stage—the child, a girl, her first; delivered by the forceps; no bad symptoms occurred in this case.

*Six Cases of Recovery from Puerperal Scarlatina.*

| No. | Hours in Labour | Length of 2nd stage | Sex and state of Child now born | | No. of Pregnancy | Presentation | Position of Head | Mode of Delivery | No. of ounces of Wine given each day after Delivery | | | | | | | | | | | | No. of ounces of Brandy given each day after Delivery | | | | | | Social State | | First day on which Fever appeared after Delivery |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | hours | M. | F. | | | | | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th to 27th | 27th to 30th | 4th | 5th to 10th | 11th to 16th | 17th to 20th | | | Married | Single | |
| 1 | 72 | 6 | 1 | – | 1st | Head | 4×1 | Forceps | 12 | 16 | 18 | 18 | 16 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 14 | 6 | – | 8 | 4 | 2 | – | – | – | 1 | 1st |
| 2 | 14¾ | 4½ | 1 | – | 1st | Head | – | Natural | – | – | 4 | 8 | 8 | 6 | 8 | 8 | 8 | 6 | 7 | 6 | – | – | – | – | – | – | – | – | 1 | – | 2nd |
| 3 | 21 | 1 | 1 | – | 1st | Head | – | Natural | – | – | – | – | – | – | – | 4 | 5 | 5 | 5 | 6 | 5 | – | – | – | – | – | – | – | 1 | – | 5th |
| 4 | 5 | – | – | 1d.p. | 5th | Head | – | Natural | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1 | – | 6th |
| 5 | 40 | 10 | 1 | – | 1st | Head | 4×1 | Forceps | – | – | 6 | 4 | 10 | 7 | 5 | 2 | 2 | 2 | 2 | 2 | 2 | – | 2 | – | – | – | – | – | 1 | – | 3rd |
| 6 | 23 | 9 | – | 1 | 1st | Head | 3×2 | Forceps | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1 | – | 5th |

To recapitulate:—Three were delivered with the aid of the forceps; four boys and two girls were born; five were in their first and one in her fifth pregnancy; one was leeched; one was unmarried; the skin desquamated in all.

The medical attendant, in his anxious observance of the symptoms of disease, pays, of course, special attention to the state of the pulse, regarding it as one of the most important sources of information as to the progress or decline of the malady; and many strive to abate the alarming symptoms presented by it, and to lessen its frequency, by the exhibition of various remedies, and not without satisfactory results. Now, without questioning the utility of these medicines in effecting, frequently, the object in view, I believe it may be more simply and, at least, as effectually obtained by the employment of stimulants. I am enabled to demonstrate this conclusion, to a certain extent, at least, in the eighth recorded fatal case. On the fifth day the pulse was 130; she got 20 ounces of wine on this and the following day, and the pulse fell to 120. The wine was continued, with very slight diminution, till the 11th day, when the pulse had fallen to 100. Unfortunately, on this day, we gave her but eight ounces of wine, and *the effect was immediate and striking*—the pulse again rose in frequency, and she died on the 15th day. I have now very little doubt that the result might have been satisfactory had we continued the stimulant treatment for a longer time. As in the other cases, besides the use of stimulants, other agents were employed, which exerted a depressing influence upon the pulse, I cannot fairly adduce them as instances of the utility of the practice I propose.

The period at which the disease shows itself after parturition is of immense importance in this, as well as in all other forms of puerperal fever, which may, of course, be easily accounted for by the low and prostrate condition of the patient immediately following delivery. Amongst the 25 cases referred to, which I have placed in tabular forms, three, who were ill from the moment of delivery, died. Of five who were attacked during the first 24 hours after delivery, but one recovered, and she, I am satisfied, was saved by the large and continued employment of stimulants, and the quantity of nourishment afforded. Her case was peculiarly difficult, presenting not only the worst symptoms of the disease, but aggravated by the wretchedness of her social position. A prisoner, and unmarried, her mental anxiety complicated the sufficiently alarming virulence of the complaint. Of 10 who were attacked on the second day, but one recovered. The attack in this case was confessedly slight; her pulse, after the first accession of fever, was 108, and quickly fell to 92. On the third day, as before mentioned, she got wine, which was continued in increased quantities. In two other cases, who were attacked on this, the second day, considerable quantities of wine and brandy were administered. The eighth, already alluded to, who

received stimulants freely until the 11th day, when the supply was diminished, survived to the 15th day. The 18th case, in which a smaller amount of stimulant was administered, died on the 8th day. Of four seized with the disease on the third day, but one recovered, and in her case the attack was not severe, as, on the fifth day after delivery, the pulse was down to 98; the remaining three were attacked on or after the fifth day, and in each instance recovered.

The sad details of mortality brought before you make it too painfully apparent that we are far from having arrived at the treatment best calculated to deal with this fearful malady. There are few medicines which have not from time to time been tried, to stay its deadly ravages, but manifestly without success. Why, may I ask, should we persist in treading the beaten track of our predecessors, when it so plainly leads to death? It seems clear that the disease cannot be grappled with by the use of *drugs*. Why not manfully get rid of our prejudices, and the weight of authorities which have evidently no virtue but antiquity, and try some other treatment, in the hope of lessening the dreadful mortality of 75 per cent? I would, in the hope of contributing to this great result, declare the opinions I have formed on this and other forms of puerperal diseases, from a not unextensive experience. I feel confident we too often neglect the manifest teaching of nature as to the treatment of disease If she demands anything from us, it is to assist her failing powers; to sustain her sinking life. She seems to pray us to support her in her sore battle with the foe she is striving to expel. We too often blindly resist her appeal; or, in our mistaken efforts to assist her, frustrate too frequently the very exertions she has herself been making. Of what use are all the drugs in the Pharmacopeia, if, while we are administering them, the powers of life are waning, and the patient is fast sinking into death? What use in straining our energies, and taxing our ingenuity in cutting short the disease, when the very *weakness*, or impending weakness, of the sufferer is enough to slay her? Out of our own mouths are we condemned; for, when our drugs fail us, and life is ebbing fast, we fly to every stimulant within our reach; too late, alas! in a majority of instances. The time when stimulants would have been *everything* has passed, and the administration of them at the last is but an acknowledgment and an admission of a destructive error; an error, too, which nature, did we but listen to her, loudly condemns. If nature cries for stimulants, be sure she needs them. If the common cry of a sinking woman be, "I am going down through the bed," pause before you close your ears to the message which that cry delivers; 'tis the utterance of a craving which no drug can satisfy, and this our death list testifies.

Another fact in connexion with this subject which cannot, with impunity, be overlooked; and one which is not, I fear, brought, with that importance which it possesses, under the notice of the student of medicine,

nor thought of as it deserves by every medical practitioner, is the intimate connexion existing between the mind and the body; a union the most perfect in creation; perfect, not only as being the work of that Great Power who knit the links of being close together, but in the eternal marriage which the word of "Revelation" declares to exist between them. This union, so complex and complete, suffers one transient severence. Death for a time cuts the bond asunder, asserting thereby his cruel supremacy, and universal rule. But the Christian looks for a coming reunion in the dispensation of the future, perfect and eternal. As to their mutual action in life, it is impossible to overrate its importance, or the necessity incumbent upon the medical practitioner of bearing it ever in mind. When disease racks and wastes the frail receptacle of life, the mind, by a subtle sympathy, desponds and pines, reacting again upon the very body which depresses it. When, again, the mind is affected by some persistent grief, or latent apprehension, or concealed remorse, or sudden intimation, whether of joy or sorrow, the bent and wasted person, the restless movements, the sleepless nights, the fickle appetite, the timorous, palpitating heart, measure the extent of the all-potent influence of mind on body. We would expect to find this sympathy morbidly manifest in disease; and so, in truth, we do, in some instances, in itself endangering life. We have to combat with this sympathy in every serious disorder; in instances, too, where both body and mind are engaged, and in cases where the natural anxiety of the mind is heightened and intensified by the pressure of unfortunate circumstances, sad recollections, or apprehensions, or the consciousness of guilt, or dread of shame. The physician can have no harder case to deal with than one which involves such a complication as this; and how, we may ask, can he reasonably expect to cure the distemper of the body, unless he try, in some measure, at least, to soothe and allay the disquietude and irritation of the mind? This state of mind, and its influence on the body, is ably noticed by Shakspere, when Macbeth inquires of the doctor:—

> "How does your patient, doctor?"
> "Not so sick, my lord,
> As she is troubled with thick coming fancies
> That keep her from her rest."

Nor is Macbeth's reply wholly inapplicable to the case at issue:—

> "Throw physic to the dogs—I'll none of it."

We must, to follow his advice,

> "With some sweet, oblivious antidote,
> Cleanse the stuffed bosom of that perilous stuff
> That weighs upon the heart."

A woman errs from the path of virtue, and becomes pregnant; the mind seems, for a time, during the period of gestation, to take little or no cognizance of the sin; but, when the hour of her trial draws near, and the possibility of death in or after parturition stares her in the face, in her low, weak, excitable, and nervous condition, the apprehensions of the mind heighten the dangers of the body. A wretched conviction of impending death, and, it may be, of impending judgment, increase the difficulties of the physician, and blunt his ablest instruments. In cases of this sort the mind is often the seat of real disorder, at all events of danger, and the physician's attention should be directed specially to it. Of the effect of the mind on the body no stronger proof can be afforded than one that is manifestly too common. The case of a patient, whose mind has been filled to distraction with the idle gossip of tattling, ignorant women, by whom every death is duly chronicled, every complication and difficulty in the midwifery of the neighbourhood fully detailed, the merits of professional attendants discussed, their skilfulness lauded, or their ignorance denounced, by their respective admirers or detractors, until the poor creature's head is full of doubts and fears, and apprehensions, she waits the trial of her sex with trembling, and when the hour comes it finds her weakened and despairing. If the slightest obstruction occurs, she gives herself up for lost. If a symptom presents itself, which she has heard from her garrulous friends was dangerous, her agitation becomes alarming. She watches every movement of the doctor, and it is well for him if he is enabled to bear her safely through her mind-caused peril. Nothing, obviously, can be more detrimental to a pregnant woman than the infamous practice of detailing, in senseless gabble, the wretched tag-ends of a midwife's tale. If such conduct is to be reprobated and repressed in those who have no professional interest in the matter, yet louder and stronger must be our condemnation when we find any of our noble and learned profession emulating these gabbling matrons, with the shameful intent of enlarging their practice, at the expense of rival practitioners, by detailing to pregnant women their real or invented failures, and leading them to believe that their only chance of getting over their confinements is by dismissing old and tried attendants, and employing them. Oh! would that such a man—and I, indeed, believe there are but few such—could feel, for ever so short a time, the agony and distress of mind his wretched slander has caused the patient. It might, in some sort, punish him for the prostitution of his glorious office, and the degradation of his high profession.

The nature of the treatment which I have myself tried, and believe to be the only one capable of overcoming the malady, may possibly have suggested itself in the remarks already made. It is, from the *very commencement* of the disease to give, largely and freely, *stimulants* in the shape of wine and brandy; and, as medicine, bark and carbonate of

ammonia, unless contra-indicated. This I believe, and have found, will give nature a better chance of overcoming the disease, and will probably prevent any sudden and irrecoverable sinking. I would advise the same treatment in the case of those whose mind is in any way disturbed. I have lately treated such a case, and, from the hour of delivery, gave the patient *stimulants*—a pint of wine in the 24 hours. This had the effect of raising and sustaining the nervous system, which was greatly and alarmingly depressed; and a case, of which I well nigh despaired before parturition, was conducted (by supporting the system, and keeping the mind and spirit in agreeable play) to a perfectly satisfactory issue. However the use of alcohol, when in health, may be questioned or reprobated, of its wonderful efficacy in these diseases I have not the slightest doubt; but it must be used *from the very first.* The effects produced by its exhibition in the last stages of disease, however transitory, too often, from the far-gone weakness of the patient, prove to a demonstration the folly of not employing it from the first. I know that these opinions are contrary to those of many eminent and learned fathers of our art, but medicine is eminently a *progressive* science, and "we know not what a day may bring forth." Your trial of the treatment proposed for the disease under consideration may be safely attempted; it cannot increase a mortality sufficiently alarming. It may—I believe it will—decrease it. Let the motto of our treatment of this disease, with regard to the exhibition of stimulants, be this:—

"If it *were* done, when *'tis* done, then 'twere *well* it were done quickly."

14*th March*, 1863.

Dr. A. W. Foot read the following paper on *Fatty and Piliferous Tumours of the Ovaries.*

I must commence by apologizing for bringing forward so trite a specimen as an ovarian tumour; but as the senior members of this society have invited the exhibitions of any preparation connected with obstetric medicine, no matter how common, I have been encouraged to bring, to-night, an example of the piliferous ovarian cyst, which, though far from rare, may possess some points of interest; and to the physicians of the Meath Hospital I am indebted for the use of this specimen. This tumour was developed in the right ovary of a married woman, 40 years of age; she had borne children, and her death resulted from another cause—namely, jaundice, from mechanical obstruction of the bile ducts. The entire ovary was implicated in the disease; it measured in circumference, 13½ inches, and weighed 1 lb. 9 oz. Its contents were composed of a soft, grey-coloured, adipose mass, inodorous and granular; intimately intermixed with this was a quantity of hair, much of which adhered to coriaceous plates lining the interior of the tumour. These

condensed portions of the inner wall of the cyst seemed in some places on the verge of bony organization; and where this tendency to ossification existed, there the inner periphery of the cyst was congested and vascular; elsewhere it had the pale colour of the fibrous tunic of the ovary. The tumour also contained some very imperfect rudiments of the cranial bones. The contents were scooped out through a small opening, into a basin containing a warm alkaline solution; the whole of the pultaceous mass dissolved herein, excepting, of course, the hairs and some of the harder caked portions in which the hairs were embedded; these parts are in this small bottle. The ovary had contracted no pelvic adhesions, but was firmly attached to the great omentum (which was unusually vascular), being fixed to it in front and posteriorly. These connexions involved it in the motions of the stomach and transverse colon, and may partly account for the elongation of the right ovarian ligament, which was six and-a-half inches long, while the left one was three. The contents of the tumour have been replaced by tow, in order to preserve its shape and size. This woman had borne five children; the youngest was 18 months old; she was sensible of late of the existence of a pelvic tumour; and on one occasion wished to know whether she was pregnant or not; she did not believe herself to be so, but could not otherwise account for the enlargement and uneasy sensations in the pelvis. Her abdomen presented also two other tumours, an enlarged liver, and a distended gall-bladder, so that the condition of the belly was almost a medical puzzle; but as the hepatic enlargements were obviously connected with her state of health, all attention was directed to them. The jaundice, for which she was admitted into hospital, daily grew more intense; and after a few weeks the final symptoms of biliary intoxication made their appearance, and she died in a state of deep coma.

A malignant tumour in the head of pancreas had involved the orifice of the ductus communis and cancerous deposits were disseminated through the liver.

Her body afforded examples of two pathological conditions, one tending to general, the other to special destruction, and exhibited two varieties of new formations, each individually, but in a different manner, proving the truth of the doctrine of Virchow, that "every kind of new formation is really destructive."[a] The first new formation was that product of cell multiplication to which the name cancer is given, and the epithet malignant appropriately attached; it proved destructive to life. The second new formation, starting from some pre-existing cellular elements in the ovary, multiplied, and in obedience to the laws of matter, it became necessary that some of the elements of the body, in

[a] Cell. Path., p. 442.

which the development took place, should cease to exist. Accordingly there were no stroma, no Graafian vesicles, no vascular or nervous structure, in short, no parenchyma of the ovary remaining; all were supplanted and replaced by anomalous tissues; the new formation had proved destructive to the ovary. It is with this latter variety of new formation we are now alone concerned. The fatty element preponderating in this tumour, the first point is to consider its textural value. Fat appears in the animal body under three aspects:[a]—First, as a necessary appurtenance to the class of tissues called adipose; its existence here affords a criterion of the well-being of the individual; this is physiological fat; secondly, it appears in a purely transitory character, in the intestinal villi during the absorption of digested adipose matter; and is, thirdly, found in that series of processes known as fatty degeneration, to which nearly all structures (except the red blood corpuscles and the nerve-fibres of the great nervous centres) are liable; whereby minute globules of fat become present among the cell contents, and a degenerative change, a retrogressive metamorphosis is set in action, the tendency of which is towards organic death. Under this latter category appears to come the fat of the fatty ovarian tumour, and this view seems to coincide with that held by Cruveilhier, who considered it to have an analogy to the corpse fat, referring, no doubt, to the animal soap adipocere, which arises, under special circumstances, out of the decomposition of nitrogenous bodies. The fat of these ovarian tumours is frequently, during the life of the patient, in a liquid condition; it flows out through the canula, and it often presents, while the patients are alive, the physical signs of a *fluid*, though it is found solidified after death. It may be again melted by a temperature of 85°, a good deal lower than that of the body. This helps to distinguish the fat of many of these tumours from the first order of fats—the physiological fat—as they appear in their natural and appropriate situation, the adipose tissue, and reduces it to the lower grade of pathological fat, which is found fluid and oily in senile atrophy of bone, and in the advanced stages of wasting diseases, and exists free in the blood; in aggravated cases of fatty degeneration of the muscles, this third and lowest form of fat contains more than the proper amount of the fluid proximate principle elain, and less of the solid principle, margarine, than the healthy fat of the first order.

Next in frequency to the formation of fatty matter in the ovary comes that of hairs, which may vary in length from a few lines to several feet; they may be attached to the parietes of the cyst, or be free; they may have well formed bulbs, or be without them. There is no necessary correspondence between the colour of the ovarian hair and that of the female in whom they are found; its colour is most usually red, or of some allied tint. In

[a] Virchow's Cell. Path., p. 320.

this case it is of a light reddish brown, while the woman's hair was jet black. Whenever there is hair on these tumours there may be teeth; Becquerel states teeth are never found unless hair be present; the teeth are usually of the first dentition, but may be permanent teeth; the greatest number which has been found is recorded by Ploucquet, who met with 300 in one cyst. Rokitansky remarks that the occurrence of hair and teeth is a peculiarity which reminds us of the concurrent deficiency of both hair and teeth which is sometimes observed, and of the renewed dentition which is associated in the aged with a new growth of hair.[a] We find that the structures most commonly met with in these cysts come under one or other of the first two categories of the triple classification of tissues put forward by Virchow as an improvement upon the 21 classes of Bichat; they being either epithelial formations, or forms of connective tissue; much more rarely are the third or higher class of structures found in these tumours—namely, muscles, nerves, vessels, or blood.

The question now arises, what gave the first impulse to this metamorphosis? If such simple, fatty tumours of the ovaries only occurred in the adult female we might feel assisted in the explanation of them by the consideration of the structure of the corpus luteum, true or false; for the yellow layer which forms the external wall of, and gives the name to, these appearances in the ovary is of the third order of fats; the inner red mass of a corpus luteum consists of thrombus, or blood-clot; the external mass is composed of fattily degenerated cells, and the yellow colour which it bears is occasioned by the refraction of light produced by the numerous minute particles of fat. The usual yellow colour of adipose tissue is not a real colour, as may be proved by altering the relation of the particles; it is a phenomenon of interference, and is caused by the multiplication of refracting points between the extremely minute particles; the different proportions of fat, and the degree of its division, producing a great number of varieties of colour.[b] The establishment, then, of a fatty deposit in connexion with both true and false corpora lutea might, for a moment, appear to afford a *locus standi* for those who hold that the fatty tumours owe their existence to the extravagant development of this tissue, normally scanty; but the ground is taken from under their feet by the discovery of their cysts long before the advent of puberty or establishment of menstruation, and, consequently, before the existence of a corpus luteum.

The explanation of these tumours was, till lately, based on either of two principles—extra-uterine fetation or spontaneous generation—neither of which could stand the tests applied by improved scientific resources.

[a] Vol. iii., p 103.
[b] Virchow Cell. Path., p. 346.

One hundred and twenty years ago we find Astruc, physician to Louis XV., teaching that these hairy tumours, which, he says, "have intoxicated the brains of theorists," are *easily* explained as aborted conceptions; the impregnated egg, with its teguments, remaining in the ovary till it forms a kind of steatomatous mass, the fetus being putrified therein; but that the hair, being more incorruptible than the rest of the body, it still enjoys a kind of vegetation, just like the hair of most other dead animals, which, after death, grows longer; and he declares that he "has never hesitated to assert that all young women in whom he found such tumours had had some commerce with men."

Diametrically opposed to such views are the facts brought forward, 100 years later, by M. Pigné (*Bulletin de la Soc. Anat.*, 1846, T. XXI., p. 200); for in 18 cases of these piliferous ovarian cysts collected by him, five occurred in unmarried females under 12 years of age; six in young girls from six months to two years old; four in female fetuses arrived at the full time; and three in fetuses aborted at the eighth month.

But these enlightened views had been heralded by Dr. Baillie, who first questioned the old explanation of the facts by extra-uterine ovarian conception, in consequence of his having discovered these productions in a female child of 12 or 13 years old; and his ideas on the subject, published in the *Philos. Trans.*, were that these formations may arise from an action in the ovarium itself, without any stimulus from the application of the male semen. These charitable views are, no doubt, consolatory in cases such as occurred to Mr. Spencer Wells and others, when great distress has been caused in a family by the fact of portions of bone and teeth coming away from an ovarian cyst, and being discharged by the anus, the supposition being that it was a case of extra-uterine fetation, and that a young lady must have been imprudent.[a] I need not say how steadily Astruc would have supported the view of impregnation.

Professor Simpson, alluding, in his lectures, to the stearoid tumour of the ovary, says the cause of the production of all these highly-organized structures in the interior of a morbid growth forms an interesting, but very difficult and debatable subject of pathology, on the investigation of which he declines to enter.[b]

Rokitansky thinks the adipose cyst, like the fluid cyst, is, undoubtedly, often formed from the Graafian vesicle, and considers that the inflammatory process is particularly liable to give the first impulse to this metamorphosis.[c] The weight of evidence seems to incline towards the view that these formations are congenital; they are known, and have been found to exist in the earliest periods of life—even before the body

[a] Medical Times and Gazette, 24th March, 1860.
[b] Medical Times and Gazette, 29th October, 1859.
[c] Vol. ii., p. 336.

they are in has itself been fully formed; and, as the circumstances attending their existence do not attract attention, they may continue long undiscovered. They grow slowly, or remain stationary, as Bequerel says, for 30 or 40 years; do not attain a large size; are generally solitary, and affect but one ovary; are freer from peritoneal inflammatory attacks, and, consequently, from adhesions and perforations, than other tumours of the ovary. Hence, in the long list of ovariotomy cases given by Mr. Clay in his translation of Kiwish's work, there is hardly a case in which operation was called for on account of a simple piliferous tumour, unaccompanied by other cystic developments.

Paget considers that it is only during the vigour of the formative forces in the fetal or earliest period of life that cysts, thus highly organized and productive, are ever formed;[a] and that the formative power manifest in dentigerous cysts is consistent with their occurring only in embryonic or fetal life (p. 90).

The view of the congenital nature of these tumours is confirmed by the history of the occurrence of similar formations in the masculine gland, when the growth is on the exterior of the body, and can be observed from infancy; for, in 11 cases of fetal remains in the testicle, quoted by Mr. Curling,[b] all were congenital. "In six cases in which the side was noted it was the right, a preference which has also been remarked in tumours of the ovary containing fetal remains;" and the tolerable nature of the growth may be gathered from the fact, that a man from whom Velpeau removed a tumour containing nearly all the anatomical elements of a fetus, was 27 years of age.

Cruveilhier accounts for these cysts, when they occur in the ovaries of mature females, by extra-uterine fetation; when they are met in other parts of the body, as in the anterior mediastinum, or in the ovary, before puberty, he explains the fact by "parasitic inclusion," signifying thereby the insertion of an imperfect germ in a fully formed one; and this opinion seems to coincide with that of Mr. Fergusson, who thus expresses himself on the nature of this kind of tumour, viz.:—That in their early fetal existence there was an attempt on the part of nature to form a fetus; the development of one was accomplished, while that of the other was arrested.[c]

I recollect having, while a student, seen the distinguished President of this Society exhibit at the Pathological Society a large collection of fetal debris which, if I remember correctly, were passed, per anum, by a lady; and shall conclude by asking for the expression of the opinion of the experienced obstetricians here present on the nature of these interesting and peculiar productions.

[a] Surg. Path., vol. ii., p. 85.
[b] Dis. of Test., p. 341.
[c] Medical Times and Gazette, 24th March, 1860.

# TRANSACTIONS OF THE COUNTY AND CITY OF CORK MEDICAL AND SURGICAL SOCIETY.[a]

SESSION 1862-63.

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DR. W. C. TOWNSEND, President.

*Remarks on the Treatment of Acute Disease.* By DR. CUMMINS, V.P.

Dr. Hughes Bennett in treating of inflammation, says, p. 116, of his *Principles and Practice of Medicine*, "The capillary vessels become over-distended with blood, and the exudation of liquor sanguinis to an unusual amount takes place, constituting inflammation." "How is this to be treated? In the early stage topical bleeding, if directly applied to the part, may diminish the congestion, and the application of cold will check the amount of exudation; but the exudation having once coagulated outside the vessels, acts as a foreign body, and the treatment must then be directed to furthering the transformations which take place in it, and facilitating the absorption and removal of effete matter. This is accomplished by the local application of heat and moisture, the internal use of neutral salts to displace the increase of fibrin in the blood, and the employment of diuretics and purgatives to assist its excretion by urine or stool."

In this passage we have a brief and lucid explanation of the two stages of inflammation, with the indications for treatment their pathology suggests; but the author, in another part of his work (p. 278), tells us that "it requires to be shown, that draining the body of blood can, in the slightest degree, influence the congestion in the inflamed part," as "there the vessels are enlarged, the current of blood is arrested, the blood corpuscles are closely aggregated together and distend the vascular tube, and are in no way affected by the arterial current." The latter doctrine seems to be the one that influences the Professor's practice, and is that also followed by his disciples, among whom my learned friend, Dr. Belcher, may, I believe, be ranked; indeed, ignoring the first stage of inflammation, they call it "exudation," thus leading us to suppose that inflammatory exudation, although consisting of the normal liquor sanguinis, is deposited from the blood, as are the aplastic deposits of cancer and tubercle—a theory which must be false, as inflammation is, at its origin, a purely local affection. Nothing can be more simple and intelligible than the views which are now held by pathologists regarding

[a] These Reports are supplied by Dr. T. W. Belcher, Secretary to the Society.

the organization and conversion of exudation, and its subsequent absorption and removal from the system, and nothing could accord more exactly with our experience, than the indication for the use of stimulants, which histological pathology thus beautifully opens up and explains. But why should we forget that there is a stage of inflammation during which exudation can be limited, and these elaborate processes of nutrition, in part at least, spared to the patient?

In my last paper on this subject, I instanced croup as an affection which must almost necessarily be fatal, unless exudation can be anticipated by treatment; and argued that, if in this one form of inflammation treatment can be practised with success, prior to exudation, it may also in others.

In truth, those who exclaim against bleeding in the first stage of inflammation, *as an abstract question*, must be in error, as it is necessary for all to admit, that there is a period of inflammation when there is too much blood in the part; and, even, admitting *that after stagnation has taken place in the capillaries* the congestion is "in no way affected by the arterial current," there can be no doubt that antiphlogistics do deplete the capillaries *as long as the blood, although retarded, is still in motion*, and it must be remembered, that in internal inflammations the several stages of the process exist at the same moment in different parts of the organ, so that it requires accurate examination of the patient before the line of treatment fit for any individual case can be determined on. But, while we cannot combat bleeding *in the abstract*, our judgment may be strongly biassed against it, by considering whether the momentary benefit to be derived from general blood-letting in the first stage can compensate for the danger of having too little blood after exudation is poured out, when a full supply of the vital fluid is essential to the patient's safety, in order to prevent his system being overtaxed to supply material for the abnormal nutrition, by means of which alone the "foreign body" can be absorbed.

In conclusion, permit me to lay before you the following propositions, which embody my views on the subject:—

1st. That inflammation may be modified, if not arrested, in its first stage, prior to stagnation of blood in the capillaries.

2nd. That any benefit to be derived from general blood-letting in the first stage is more than neutralized by the debility it causes, and its too permanent influence on nutrition.

3rd. That the first stage of inflammation is most safely combated by means which produce a more transient effect on the circulation, such as tartar emetic, local depletion, fomentations, &c., &c., and that these diminish the subsequent exudation by decreasing the congestion on which it depends.

4th. That nutrients and stimulants are almost always necessary in the second stage to further the transformations through which exudation

must pass, before it can be absorbed, and thrown out of the body.—*November* 12, 1862.

Dr. Belcher exhibited the intestines of a man who had died in the Fever Hospital, and read the following account of the case, drawn up by Dr. Joseph O'Kelly, acting Resident Medical Officer, who made the *post mortem* examination:—

Maurice Fitzgerald, aged 45, a pensioner in the East India Company's Service, admitted into hospital, November 17th, under the care of Dr. Beamish. He says that he has been complaining for the last week of constipation of the bowels; never suffered from it heretofore. He also complains of much difficulty of breathing; appears greatly oppressed, and refers to the throat as the seat of agonizing pain. He attributes his symptoms to the use of a bad description of vegetable food, and to the drinking of porter, which, no doubt, was bad also, as he had been residing in a brothel of the vilest description for a month previous to admission to hospital.

The abdomen was enormously enlarged, and some pain was felt on pressure; pulse quick, and tongue foul.

He got 10 grains of calomel and a common enema; a large quantity of water was injected, but it passed off immediately.

He had, after this, plenty of purgative medicines; the long tube was also passed; he was well supported by stimulants, but without success. He died on the 18th.

*Post mortem* examination.—On opening the abdomen, several gallons of fluid, mingled with pus, escaped; the intestines presented marked appearances of congestion; and the ilium, more particularly, showed a brilliant vermillion colour, which lasted for several days. There was not any appearance of invagination or obstruction of any kind.—*Nov.* 26, 1862.

The Secretary read the following communication:—

*Case of Vesical Paracentesis in Retention of Urine, from Enlargement of the Prostate Gland.* By Francis M. Luther, M.D., Clashmore, Co. Waterford.

James French, aged 63, labourer, sent for me in haste on 16th February, 1862. He was suffering from complete retention of urine, caused by enlargement of the prostate, which had, for four years, rendered micturition difficult. It being impossible to pass a catheter, and the bladder being enormously distended, causing great distress and frequent vomiting, I tapped that viscus (having previously punctured the skin with a lancet)[a] about an inch above the symphysis, and passed a small catheter through the canula; I thought it advisable to leave both in the

[a] Erichson directs an incision *an inch and a-half long* to be made previous to tapping.

bladder in order to avert the occurrence of recession of that organ, and possible extravasation of urine. The bowels being confined I gave him and ounce and a-half of castor oil, and ordered gruel diet.

Next day I found that the bowels had acted freely, that the canula had slipped out, that the catheter was still in the bladder but evidently choked, for no urine came through it, and the bladder was again distended. On the 18th I drew out the catheter, and its withdrawal was followed by a spout of urine. Dreading extravasation I reintroduced the trocar and canula as speedily as possible, and, again fixing the catheter, obliged the man to sit up in a chair to secure the position of the instruments, notwithstanding which precaution I found, on my visit next day, that owing to his neglect they had again slipped out.

I now tapped him with a very large trocar and canula, but did not again introduce the catheter; I ordered him to take a scruple of muriate of ammonia every three hours. From this time until the 26th I tapped him every day with a small hydrocele trocar. On the 23rd I had to administer an enema to remove a colic and constipation; it had the desired effect. On the 26th I succeeded in introducing a silver catheter, No. 8, into the bladder, and passed it every day up to the 6th of March, when I was again obliged to tap him for several days successively until catheterism became again easy.

At this stage I mixed equal parts of laudanum and water, and ordered a teaspoonful to be taken every three hours. This enabled him to pass a good deal of urine, though not to empty the bladder completely, but catheterism or tapping was still occasionally required. The patient himself attached great value to the use of the tincture of opium, and I believe took it in larger doses than I prescribed. It never narcotized him.

On the 14th I tapped him, and on the 15th employed the catheter. On my next visit I was provoked to find that the urine now flowed through the fistulous opening made by the trocar. I now was very apprehensive of cellulitis, the more so that there was some slight fever and dryness of the tongue, but evidently perfect adhesion of the bladder to the abdominal wall had occurred, for those symptoms speedily disappeared. I allowed a catheter to remain for two days in the bladder, and the fistula closed, but it could not be longer tolerated by the patient, and on its removal the fistula reöpened.

I now left it open as a safety valve, and adapted a urinal by cutting the top off an India-rubber pessary and fastening it over the fistula with a four-tailed bandage which kept him dry, he continued to pass urine thus for a month when the fistula closed spontaneously. He is now (20th October) able to pass urine tolerably freely by the urethra, though he still suffers from irritability of the bladder and frequent micturition. He has worked as a labouring man throughout the summer.

Shortly after writing the foregoing article I was again called on to

attend French; I found him suffering from colic and obstruction of the bowels; I applied the usual remedies without effect. When the obstruction had continued for nine days, retention of urine supervened. I tried to pass the catheter ineffectually, though as I did so a few drops of urine flowed through the old fistula; I then attempted to pass a probe into the fistula, but did not succeed in doing so; I now drove the trocar and canula through the fistula up to the hilt. It passed through a semi-cartilaginous substance giving the sensation of a scirrhous cancer, but no urine flowed through the canula. I concluded the trocar was not long enough to perforate the adhesions, and passed the sharp end of a probe through the canula about two inches farther, the resistance ceased, and, as no urine flowed, I presumed it pierced the prostate gland and rectum.

As a last resource I gave him a drachm of laudanum, and directed him to take large doses frequently during the day.

On my visit next day I found the bowels had acted freely, that he passed urine copiously through the urethra, and that he was relieved in every respect.

For about a week after this he suffered from diarrhea; on its cessation he resumed his work as a labourer in his own potato garden.

The only comment I have to make on the above case is, that tapping the bladder is apparently not a very dangerous operation; where the bladder is dilated, as it was in this case, the supervention of peritonitis need hardly enter into our calculations at all. The relieving the bladder from distension is a great object. Probably it may be the best mode of operation to merely puncture, and use a trocar and canula of mean size, capable of admitting a No. 2 or No. 4 catheter, inasmuch as, if no catheter be employed, the aperture in the bladder may remain or become patulous, and no adhesion occurring, extravasation may take place. A good deal of spasmodic stricture must attend prostatic enlargement, otherwise it is difficult to account for the benefit from the opium.—*December 10th*, 1862.

The Secretary also read the annexed communication from Richard W. Day, M.D., M.R.C.S.L., *on the Curious Re-union of an Amputated Toe.*

The following case, which may be worthy of the notice of the society, occurred in July of this year.

I was standing in the Royal Victoria Dock Yard (Passage) one morning and was nervously watching a "young hand" dubbing. He was handling the adze so awkwardly that I cautioned him about it. I had hardly done so when he exclaimed, "I am cut." On going over to him I found the upper leather of his right boot cut across the toes and instep. I had it immediately taken off, and the stocking carefully removed; as this was slipping off he cried out that "his toe was in his

stocking." I found the second toe literally amputated. The adze had cut obliquely, passing in this direction through the phalangeal articulation. The thinnest bridle of skin from the sole of the foot prevented its complete separation. I wish it to be clearly understood that this connecting medium was so thin that it did not include a muscular fibre, it was in fact nothing more than a THIN shaving of the thickened cuticle of the sole. There was smart hemorrhage.

Being, as I said, a witness of the occurrence, and thinking that if there was any virtue in "Conservative Surgery" this was the time to test it, I brought the parts into apposition, and kept them so, by two lateral sutures, a foot splint and a roller steadied the toes and prevented muscular jerking, and a poultice changed night and morning was the only treatment in the progress of the case I found necessary.

During the first week the separated toe appeared as if its circulation was in abeyance; it was livid, cold, and had no sensibility. On the ninth day I was encouraged to persevere by my patient telling me that he felt a slight "tingling" in it; this sensation continued until the fifth week when perfect union was established, and the toe had become nearly as strong as ever.

*Acute Rheumatism.* By the Vice-President, DR. CUMMINS.

The following case, which occurred in my practice some time since, was so unpromising, and yet benefited so much by the treatment adopted, that I am induced to read a very brief abstract from my notes of it.

Mrs. ———, aged 25, was attacked by severe acute rheumatism, a sequel of scarlatina, about eight years ago. Endocardial inflammation complicated the disease; convalescence was not established for several months, and chronic rheumatism, with palpitation and occasional pain over the base of the heart, have caused much suffering ever since. Twelve months ago she had pneumonia, followed by abortion in the early months of gestation; subsequently she recovered her health tolerably, became again pregnant, and in November, 1861, engaged me to attend her in the confinement, which she expected the following January. I found her pale, with a countenance characteristic of habitual suffering, complaining of a distressing cough, palpitation, insomnia, and cardiac pain; pulse, highly irritable, 120. Physical examination demonstrated the lungs free from disease, but by a rough systolic murmur, diffused over the greater part of chest and epigastrium, most intense over the base of heart, strong impulse, and increased precordial dulness, indicated serious organic disease of the heart. Hydrocyanic acid relieved the cough, and appropriate treatment palliated the other sufferings, although the pulse never fell below 100.

On the 8th of January, labour, which had lasted more than 24 hours, was terminated, with the concurrence of my friend Dr. Harvey, by the

forceps. Convalescence, which was otherwise rapid and natural, was complicated with rheumatic pains and cardiac distress; but, although always suffering more or less from those symptoms, she was able to go about pretty well until the 30th of March, when inflammatory rheumatism, with swelling, tenderness, and pain of the joints, set in; she was then ordered half a grain each of opium and ipecacuanha, with five grains of nitrate of potash, every third hour; and between the doses ten grains each of the bicarbonates of soda and potash; the joints were wrapped in cotton covered with oil silk. On the 31st, as the cardiac murmur was a little more rough, the dose of alkaline mixture was increased and laudanum added to it.

On the 3rd of April, when being raised to have bowels opened, there suddenly occurred much palpitation, with irregular, unequal, and feeble pulse, unattended otherwise with change in the physical signs; the quantity of laudanum was increased. On the 4th pulse came down to 108, and cardiac sounds were exactly the same as before the fever set in. All the joints affected, and suffering indescribable. A grain of opium and two grains of blue pill every third hour were substituted for the Dover's Powder and nitre. On the 7th there was a catch on inspiration below left mamma, which was removed by a blister; the pills were omitted, and a grain of opium given every fourth hour, the mixture with laudanum being continued as before; beef tea was also added to the farinaceous diet on which she had been previously supported. On the 9th the opium pill was given every three hours, and small blisters applied to the joints. 11th.—Pulse 100, no palpitation; little articular pain; bowels relaxed; tongue cleaning. 13th.—Pulse 90; tongue clean; free from pain, tenderness of joints, or palpitation; there is little articular suffering, as at her own request the little blisters have been applied to the joints in great numbers; sat up some hours, and was able to walk across the room with assistance. 14th.—Convalescing rapidly, the opium pills and alkaline mixture, with laudanum, have been pretty regularly alternated with each other every hour and a-half since; they have never narcotized or made her drowsy, nor have they prevented several free relaxed motions every day; the quantity of urine has increased and become natural under their use, and diaphoresis has continued, though not to any great extent. The only appreciable effects produced by such a free administration of opium have been to relieve pain, check inflammation, anticipate threatened cardiac mischief, and act on secretions. I now extend the interval of the dose to two hours. 15th.—A cold damp south-easterly wind has caused some return of the pains; the alkaline mixture has produced a little sickness of stomach and diarrhea. She is pale and anemic; pulse 84; omit alkaline mixture. To take the opium pills every three hours by day, every two hours when awake at night, and to return to the small blisters over joints. To take a quinine and sulphuric acid mixture. 17th.—

Pulse 76; pains relieved; omit quinine mixture. 19th.—Pulse 68; as she is now quite convalescent as regards rheumatism I omit the opium pills. After this, for a short time, I continued to give her tonics, and recommended a change of air, which, however, she was unable to obtain. Her health was far better than before the attack until she became again pregnant, with a return of the cough and nervousness, to which faintness is sometimes superadded. The cardiac physical signs are exactly the same as before her illness, and, on the whole, she is not suffering more this pregnancy than the last.

Perhaps there is no disease for which so many specifics are recommended as for rheumatic fever, and yet the experience of most medical men is, not only that it is a very intractable affection, but one that is extremely liable to lapse into a chronic condition, and to leave a sting behind in the shape of organic disease of the heart.

The alkaline treatment seems to be the one most clearly indicated by the pathology of the disease; for if lactic acid, circulating in the blood, is its cause, medicines which chemically neutralize the poison, and, at the same time, eliminate it from the system by the kidneys and skin (as most alkalies do) ought to fulfil the chief indications. It is the mode of treatment too which I think accords best with experience, for I believe those who have tried it generally regret the so-called specifics. But of all diseases the physician is called on to treat, there is perhaps none so painful as acute rheumatism; the sufferings defy all description, and we are generally called on to palliate this symptom. Now, the case I have read illustrates a very important point in the pathology of the disease, viz.: its extreme tolerance of opium; but to prove useful in rheumatism this precious drug must be administered with a fearless hand, for no ordinary anodynes have the least effect. During most of the 21 days this lady was under treatment she took from six to eight grains of opium, and more than a drachm of laudanum every twenty-four hours, still she was never made drowsy or narcotized, and it seemed as if the medicine both directly reduced inflammation and favoured excretion.

This case cannot be looked upon as a fair specimen of the duration of rheumatic fever under alkaline treatment, as it occurred in a bad subject, and was besides more or less complicated; but I am certain that under any other treatment it would have been more prolonged, if the patient had recovered at all, which I considered improbable under any circumstances, so severe was the disease, and so broken down was she at its onset; indeed I congratulated myself very much on having so perfect a recovery even in three weeks, and I place more confidence than ever in the line of treatment which has been recommended by the late Dr. Todd and others, and which I have for some time adopted.

I cannot speak too highly of the value of small blisters the size of a shilling or half a crown over the affected joints, frequently repeated. I

believe Dr. Todd explains their action by the vesicle giving exit to a liquor sanguinis, charged with the lactic acid which nature had directed to the diseased joint, to eliminate it from the blood, but which the blister draws to the surface, and evacuates more directly from the system; but whatever their *modus operandi* these little irritants give such magical relief that after the patient has unwillingly tried a few of them he takes that part of the treatment into his own hands.

It is generally considered that in acute rheumatism deposits may occur on the valves of the heart independent of endocardial inflammation, the increased fibrin circulating in the blood being mechanically arrested by the valves and subsequently organized; now, when deposits already exist on the valves, the result of a former illness, the tendency to a mechanical arrest of fibrin must be largely increased; but in the case I have detailed, although there preëxisted serious valvular disease, no increased deposit was indicated by the physical signs either during or subsequent to the attack, thus showing that the treatment had an influence either in preventing a large increase of the fibrin, or dissolving any undue proportion of it that existed.

## CLINICAL RECORDS.

*Cases in Surgery.* By Glascott R. Symes, one of the Surgeons of Dr. Steevens' Hospital.

No. I.—*Case of "Loose Cartilage" in the Knee Joint.*—As, I think, many practical surgeons may learn a lesson from an unsuccessful case as well as from one which has turned out well in the result, I have no compunction in publishing the following case:—

Within a very short space of time four cases of "loose cartilage" were admitted into Steevens' Hospital—one under Mr. Colles, two under Mr. Hamilton, the fourth under Mr. Wilmot—some of whose cases were under my care at the time. Three of these cases occurred in members of the constabulary force. In the first three the "loose cartilages" were removed with ease; nor was there any symptom which called for the slightest alarm. However, the fourth case was not so fortunate, as, though the operation, in itself, was successful, yet the patient died some time afterwards, not from disease of the joint, but from exhaustion—the result of diffuse inflammation of the areolar tissue of the leg. The particulars of this case I shall briefly narrate.

On November 11, 1862, Thomas Costelloe, a recruit in the constabulary, presented himself to me, at the Depôt Hospital, Phœnix Park. He complained that for a fortnight previously he had suffered, at times, great

pain in the left knee, especially when at drill; and he frequently experienced a sensation as though something were moving about in the joint. After his admission into Steevens' Hospital, several attempts were made to discover the presence of a "loose cartilage," but, for some days, without success. One morning he stated that he had it fixed. On making firm pressure over the tendon of the extensor muscles, the "cartilage" shot inwards, and could be distinctly felt on the inside of the tendon, apparently the size of a large bean. After this it could be sometimes easily found; at other times its discovery was impossible, especially when it got to the back of the joint, or when it was situated behind the patella. It never made its appearance on the inside of the joint but on the one occasion; but could generally be readily pressed fron beneath the extensor tendon. On two occasions he was placed on the operating table for the purpose of removing it; but as it could not be found, the operation was deferred. On the third occasion, November 22, 1862, it was secured, *but* on the outside of the knee; I made an incision in a vertical direction, to the extent of an inch and a-half, over the "cartilage:" my intention was to make it a valvular opening. The incision extended through the capsule of joint, which is here extremely thick, being strengthened by its connexion with the vastus externus. It could now be felt in a pouch formed by the external lateral ligament, the bones, and the capsule; and out of this it was removed after considerable difficulty. A tenaculum was passed through it, to secure it; the synovial membrane was now cut through, when it slipped out quite easily. The morbid growth was about one inch in length, and not half an inch in thickness. It did not turn out of the joint until one end of it was presented to the opening. As the synovial membrane received very little injury, a favourable result was anticipated in this instance. As in the other three cases, the limb was put on a straight splint; ice poultices were constantly applied; and strict quiet was enjoined.

The patient went on favourably until the 25th (*i. e.*, the fourth day after operation). During this time he slept well, was cheerful, &c., but his pulse was never below 96, a circumstance which was fully accounted for by a consideration of subsequent events; there was no heat or pain in the joint, not even on pressure. However, on the morning of the 25th, he stated that he had not slept well the previous night; the thigh was a little puffed and swollen above the wound; as the bowels had not been moved for some days, he was ordered the calomel and jalap bolus, and to have the thigh poulticed.

On the 26th the limb was considerably more swollen; a small quantity of matter was pressed out of the wound. The limb was enveloped in a large poultice; tongue dry, brown; pulse 120.

27th.—No amelioration of former symptoms; there was now delirium present; the limb increased in size; there was a diffused red blush on

the outside, extending as high as the great trochanter; the original incision was enlarged, and about five ounces of fully-formed pus obtained exit.

28th.—Pulse, 128. The delirium was now of a furious type; he required the constant attendance of three of his comrades to prevent him injuring himself.

I do not intend to weary my readers with the details of a case of well-marked diffuse inflammation of the areolar tissue beneath the deep fascia of the leg; suffice it to say, numerous openings were made, from time to time, wherever the presence of pus was indicated, and that the pus was always accompanied by a very curious, and, as I believe, rare pathological phenomenon—namely, the presence of gas imprisoned in large quantities. In this species of mortification of the areolar tissue it is common to find it in small quantities, as evidenced by the peculiar crackling, emphysematous sensation; but here it was in such quantities that the limb was quite tympanitic; and when an incision was made it escaped with an audible sound, but was not fetid. Although the external intermuscular septum is very strong it did not limit the inflammation, consequently incisions were required both in front and behind it. After some time the inflammation attacked the leg; as in the thigh, it was the areolar tissue beneath the fascia which was engaged; it was accompanied by the very same symptoms, local and constitutional. Throughout he was treated with stimulants administered in the most concentrated form.

Dec. 3.—He was reduced to a very alarming condition by the sudden loss of about six ounces of blood from the original incision; we had a very practical exemplification of what can be effected by depletion, in a subject already much exhausted; for several hours it was doubtful whether he was about to die; however, he rallied from this.

It was not till the fourth week that the joint itself became engaged; its destruction did not take long. The thigh and leg gradually improved, so much so that all the openings closed except two communicating with the joint; the irritation of this, along with a large bed sore, so reduced him that, at a consultation, it was decided to amputate the limb to save life; the operation was deferred, at the patient's request, until his relatives should be communicated with. When they came to Dublin he refused to allow the operation to be performed. He lingered for six days, and died on the 17th January.

At the *post mortem* examination, the thigh and leg were comparatively restored, but the disintegration of the joint was extreme. Not a particle of synovial membrane was to be seen; it and the encrusting cartilage were completely removed, the opposing surfaces of all the bones were also destroyed; the tibia and femur presented an appearance as though a slice had been removed from each with a saw.

It was evident that the subfascial inflammation, extending ultimately to the joint, was the cause of death. It will be borne in mind that there

was not the slightest symptom of the joint being engaged, until the fourth week.

In all four cases the extraction by valvular incision was the method had recourse to; in the three favourable cases on the inside of the joint; the subsequent treatment by ice, &c., was the same in all. Although one cannot generalize from the consideration of a single case, still, taking into account the anatomy of the part, and the comparatively superficial situation of a "loose cartilage," when on the inner side of the joint, I think that, if possible, the operation should be performed on the inner side.

In the above case I had no choice, as I never could get the morbid growth in the situation which I should select.

If a similar case were to present itself to me now I am sure that I should consider myself justified in delaying till such time as I could succeed in fixing the "cartilage" on the inner side of the joint.

The mortality in these cases is very great, being about one in six, according to M. Larrey. Having in one case seen a "loose cartilage" attached to the synovial membrane, in the situation of the alar ligament, I have no doubt but that such morbid growths should be considered the result of inflammatory action attacking the synovial membrane, and causing hypertrophy thereof in the situation of those fringes which are known to anatomists, in the front of the joint, and which have been very improperly dignified with the name of ligaments; the absorption of the pedicle, by which such a growth is connected, fully accounts for the *sudden* accession of the symptoms which evidence the presence of a loose body in the knee joint. If these growths were formed in any of the other methods suggested by pathologists the symptoms would be more gradual; but, as far as my experience goes, this is not the case.

No. II.—*Strangulated Femoral Hernia; Operation; Erysipelas; Recovery.*—I have often heard it remarked by experienced surgeons that there is no surgical disease requiring operation which presents itself to the practitioner under such different aspects as strangulated hernia; and that, in fact, no two cases are alike. Hence I think the two following cases are not altogether devoid of interest:—

Terence Lynch, aged 58, residing at the Strawberry-beds, was sent to me by my friend, Dr. Maguire, of Chapelizod, on the 27th January, 1863. He was admitted to Steevens' Hospital, under Dr. Wilmot, to whose great kindness I was indebted for the charge of the case. He was labouring under all the symptoms of strangulated *femoral* hernia of the left side. According to his account the hernia was of long standing. The strangulation had existed for 36 hours before admission. The tumour was the size of an apple, but, by manipulation, Dr. Maguire reduced it to the size of a chestnut; further than this he could not succeed.

On admission, late on the evening of the 27th January, he had vomiting, but he stated that he was much better since the reduction in the size of the hernial tumour; although he had had no motion from the bowels, yet he was not suffering so much pain that he was ordered a full opiate. Next morning it was very apparent that the strangulation still existed; in addition, he was reduced in a very great degree, the pulse being quick, thready, and weak; consequently, assisted by my colleagues, I performed the operation for the relief of the stricture in the usual manner, and opening the sac. Having divided the stricture, the gut, of which the hernia altogether consisted, was returned. Chloroform was not used, the patient being considered too weak; in fact he was supported during the operation by stimulants. On the same afternoon there was a motion from the bowels. This old man was the subject of a chronic cough. On the 30th January erysipelas attacked the wound; numerous abscesses formed in and about the part. The erysipelas was of the erratic type—on one day almost disappearing, on the next returning in some other part. On one occasion it disappeared, the patient being attacked by congestion of the lungs, which, on its removal, was superseded by a fresh attack of the erysipelas. He was discharged from hospital February 23rd, suffering still under œdema of the leg. I had frequent opportunities of seeing him afterwards; his recovery was rapid, and he is now able to take unusual exercise for a man of his years.

No. III.—*Case of Strangulated Femoral Hernia; Operation; Fecal Fistula; Spontaneous Recovery.*—Philip Murphy, a native of Skerries, aged 56, admitted 2nd May, 1863, suffering from all the symptoms of strangulated *femoral* hernia of the left side; had never worn a truss; the hernia was of two years' duration, and reducible. As far as I could learn, the hernia was strangulated but for 24 hours, as, on the day before admission, there was a motion from the bowels. On feeling pain in the tumour, he applied to my cousin, Dr. Symes, of Skerries, for relief, who, after trying the usual means for reduction unsuccessfully, sent him up to Steevens' Hospital. This old man had chronic bronchitis for years; in addition, his pulse was slow and intermittent. Failing to reduce the hernia, with the assistance of Drs. Colles, Hamilton, Fleming, and Wilmot, I operated in the usual manner. The sac was of great size—as large as an apple—and contained about two ounces of bloody serum; at the bottom could be seen the gut, quite brown, the size of a cherry, firmly constricted and immovable. On dividing the stricture it was readily returned into the abdominal cavity, but it came down again. This tendency was greatly increased by the cough; no means that I could devise would retain it in its proper situation. As there had been no motion from the bowels 48 hours after the operation, a warm soap-and-water enema was administered, which was followed by a copious normal evacuation; the other symptoms of

constriction were removed immediately after the operation. He went on well until the seventh day, viz., 8th May, when my attention was drawn to a remarkable change in the discharge from the wound, it now being brown, of a peculiar acrid fetid odour, but not as fetid as fully-formed feces. On the next day there was not the slightest doubt but that a fecal fistula was fully established; at one time during the day half a pint of fecal matter was discharged; it could at any time be forced out of the opening by making firm pressure on the abdomen. When at stool the discharge was not increased. From this date the discharge daily decreased until the 15th, when it subsided altogether; nor have I or any one else been able to detect any since.

In the first of these cases the partial reduction of the hernia was a remarkable fact, and calculated to mislead; the poor man's subsequent recovery from erysipelas, and from numerous abscesses, was not expected; but this day he is in the enjoyment of the best health. In case No. 2 the duration of the strangulation was short, yet it was followed by sloughing of the intestine to a certain extent. The spontaneous cure of the fecal fistula, without the slightest interference, is a matter worth putting on record; the size of the sac I believe also to be unusual.

It is very curious how much more common femoral hernia is in the male than is usually supposed. During the last four years several cases have been operated on, for the relief of strangulated hernia, in Steevens' Hospital; they were all, without exception, femoral.

I have Mr. Fleming's authority for stating that his experience at the Richmond Hospital has led him to a similar conclusion.

To what fact are we to attribute the greater mortality after operations in these cases in hospitals? Surgeons who operate in the country show a much more favourable result than hospital surgeons. Several surgeons, from various parts of Ireland, with whom I am acquainted, and whom I have questioned on the subject, show a much larger proportion of successful cases than hospital surgeons, who, it would be at first imagined, had at hand all the necessaries for treating these cases successfully. Is this greater mortality in hospitals due to the (generally) late operation, or to the excessive amount of manipulation the tumour receives previous to admission, by the surgeon having charge of the case; and afterwards from the hands of the many surgeons and anxious students in attendance on a metropolitan hospital?

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*Cases of Aphonia Treated by the Direct Application of Electro-Galvanism to the Vocal Cords.* By Philip C. Smyly, M.D., T.C.D., Surgeon to the Meath Hospital.

The following two cases have a special interest, as being the first in which galvanism has been applied directly to the vocal cords in this

country. My attention was first attracted by the very interesting paper on the subject by my friend, Dr. Morell Mackenzie, in the *Times and Gazette* of February last. I at once obtained the instrument, and employed it in the first case which presented itself in the hospital.

Ellen B., aged 46, a widow, for about six years has been subjected to great privations; constantly over-worked, and exposed to wet and cold in her occupation as a laundress; has had three children; monthly periods ceased two years ago.

She was admitted into the Meath Hospital on the 30th of April, under Dr. Stokes, with *mute aphonia*, which came on suddenly, without pain or dysphagia. This condition was of about three weeks' standing. She has had a cough for about a year.

The voice is reduced to the lowest whisper; and even a violent effort does not elicit the faintest sound.

On examination with the laryngoscope, the larynx appeared healthy in every respect; no swelling, thickening, or abnormal redness. The arytenoids acted, but the vocal cords lay perfectly flaccid.

May 7th.—Electricity was applied by means of Dr. Mackenzie's instrument, the current being directed from the points of the arytenoids through the vocal cords. On the 8th the application was repeated. There was considerable coughing, with copious expectoration. Immediately after she could *sound* the voice so as to be heard at the distance of several yards. The voice is very rough and unequal. Repeated again on the 12th. The vocal cords closed distinctly, and vibrated naturally, immediately after this application. She declared she could speak without any effort.

June 17th.—Saw E. B. The voice is strong and natural as after the application on the 12th.

For the particulars of this case I have to thank Mr. Richards, one of the most diligent and attentive pupils of the hospital.

Case II.—Mrs. X., mother of seven children; rather anemic, but not thin. Suffered much from floodings at her confinements.

Eight years ago she had hooping-cough. Since then she has suffered every winter from loss of voice. Last August, after a slight cold, she completely lost her voice, and has not since recovered it. I saw her for the first time on the 22nd of June, 1863, with Dr. Stokes. Examined her with the laryngoscope, and found the larynx healthy, and the aphonia to depend upon relaxation of the vocal cords, and advised the employment of electricity, which I accordingly at once applied by means of Dr. Mackenzie's instrument. This is a very interesting fact; for many have stated that the education necessary for the patient to go through renders this instrument useless in acute diseases. In this case, in about twenty minutes, the pharynx was not only tolerant of the mirror, but I

was able to touch the arytenoids sufficiently firmly to pass the current from them through the vocal cords to the other conductor, which was applied externally to the thyroid cartilage.

On this occasion the current was very feeble. After two or three applications Dr. Stokes thought he heard a faint sound at the very end of a violent effort on the part of the patient to say ā.

On the 24th the application was repeated, and a stronger current employed. After this she could say *one*, but not two or three. She could also sound parts of several words; but a very great effort was required to do so. On 25th the current employed was very strong, and the application repeated frequently during an hour. After this application she could count and speak with ease.

26th.—She called to say that her voice was perfectly restored, and that she was going to the country that day quite satisfied.

July 13th.—Dr. Stokes received a letter to day from this lady saying her voice was as perfect as when she left town.

A short notice of a case of Dr. Mackenzie's will be in very good place here. The patient had aphonia for three years, and had been treated by the most distinguished physicians of London without any effect. Galvanism had been tried in every form—externally, for four months, *every day*, without any improvement. After four applications of internal galvanism the voice returned, though it was hoarse. After six it was no longer hoarse, but there was an absence of modulation in the tone. After the eighth the voice was perfect.—*Letter from Dr. Mackenzie, June* 22, 1863.

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*Albuminuria and General Dropsy; Recovery.*[a] By Thomas Hayden, F.R.C.S.I., L.K., and Q.C.P., Physician to the Mater Misericordiæ Hospital.

R. H., aged 40, by occupation a harness-maker, was admitted into the Mater Misericordiæ Hospital, under Dr. Hayden's care, on the 12th of May last, suffering from general dropsy. He had been a hard drinker up to 16th of March last, the date of commencement of his present illness. His first and most urgent symptom throughout was a sensation of great debility, often prompting him to lie down in the street. His face is pallid and swollen, feet and legs œdematous to a degree of tension, and pitting deeply on pressure. The peritoneum contains a considerable amount of fluid, as evidenced by fluctuation; urine scanty, high-coloured, specific gravity 1·025, and loaded with albumen, but containing no tube-casts Pulse regular, of moderate volume, and averaging 70 in the minute; appetite good, especially for dinner; thirst not urgent; bowels confined, and sleep indifferent.

[a] Reported by Mr. E. J. Renehan, Resident Clinical Clerk.

The treatment consisted in the administration, in the first instance, of active hydragogue aperients of compound colocynth and blue pill; and when the bowels had been sufficiently acted upon, five grains of compound powder of ipecacuanha were given every third hour, together with a wine-glassful of a mixture, every second hour, containing compound spirits of juniper, one ounce; acetate of potash, four drachms, and infusion of juniper, seven ounces.

Under this treatment the bowels became free, the urine much increased in quantity, and the œdema and ascites rapidly diminished; he enjoyed refreshing sleep, and his general condition was so much improved that he requested to be allowed to return home, with a view to resuming the labour of his trade, and was accordingly discharged on the 28th of May, in, apparently, restored health.

The chief interest in this case is connected with the successful administration of an active diuretic, notwithstanding the presence, in large quantity, of albumen in the urine, and other symptoms of Bright's disease, including general dropsy.

I am disposed to regard a high specific gravity of the urine, and the absence of tube-casts, as justifying a favourable prognosis, however long the disease may have lasted, and as furnishing an indication for the exhibition of diuretics. Urine of a specific gravity above 1·020, not containing sugar, or the ordinary ingredients in excess, may be presumed to contain urea in the normal proportion, from which it may be inferred that the epithelium of the convoluted tubes of the cortex of the kidney has not suffered disorganization. This opinion would be strengthened by the absence from the urine of renal epithelium, or its *debris*.

In such a case the presence of albumen in the urine, as likewise the dropsical effusion into the areolar tissue and serous cavities, is probably the result of *primary* vascular congestion of the kidney, to whatever cause due, as distinguished from *secondary* congestion, arising from non-elimination of urea, and the consequent resistance of the renal capillaries to the transmission of an impure blood.

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*A Case of Pyo-pneumothorax, in which Sudden Death Occurred.* By Thomas Hayden, F.R.C.S.I., L.K., and Q.C.P.I., Physician to the Mater Misericordiæ Hospital.

John Byrne, aged 27, labourer, was placed under my care in the Mater Misericordiæ Hospital, on the 27th of last April, obviously in an advanced stage of phthisis; he was greatly emaciated, and suffering from night sweats, short teazing cough, aphonia, and extreme dyspnea; the pulse was 114, and weak; face flushed, and bowels constipated.

The left side was motionless during respiration, and, on measurement, half an inch in excess of the right; the intercostal depressions on that

side were obliterated; percussion-resonance was tympanitic, except inferiorly, where there was complete dulness, changeable with the posture; there was likewise dulness along the spine on the left side, but not of so decided a character; the respiratory murmur was universally absent on the left side; and near the posterior inferior angle of the scapula, over a limited area, a blowing sound of an amphoric character was audible, with inspiration and expiration. Succussion yielded splashing, accompanied with metallic resonance, audible to the patient and the bystanders; the heart pulsated to the right of the mesial line. Muco-crepitus was audible over the entire extent of the right lung, of a coarser character inferiorly, where there was likewise dulness on percussion.

This man's habits had been somewhat intemperate. He had caught cold twelve months previous to the date of his admission into hospital, and neglected to have it treated. Four months subsequently he became hoarse, and then lost his voice. Six months later he was suddenly attacked, whilst in bed, with acute pain in the lower part of the left side, extending to the shoulder, and, at the same time, his breathing became much more embarrassed. He spat a little blood about a week subsequently; and a fortnight before admission he began to suffer from night sweats.

The treatment consisted in the administration of anodyne expectorants; cod-liver oil, with tincture of cinchona; gentle aperients, and nutritious diet. The side was painted occasionally with tincture of iodine; and Dover's powder, to check the perspiration, was given at night in five-grain doses, with satisfactory results.

The patient was apparently not losing ground, the appetite was better, and the night-sweats controlled, when, on the night of the 9th of May, he suddenly expired, without having afforded any premonitory indication of the immediate approach of death.

Unfortunately a *post mortem* examination of the body was not obtained. This would have been interesting in reference to the proximate cause of dissolution, which was probably perforation of the right lung on the night of the 9th of May—a presumption at least warranted by its previous condition, as indicated by the physical signs, as well as by the suddenness with which death occurred.

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*Podophyllin; Cases in which it was used.* By T. H. Babington, M.D., T.C.D., F.R.C.S.I. Londonderry.

Finding in *Braithwaite's Retrospect*, Vol. XLV., a paper by the editors of the *Lancet*, and also notes of cases by Dr. Clarke, recommending podophyllin as a valuable chologogue aperient, and having on many occasions been disappointed in the effects of aperients said to

act beneficially in hepatic affections, I determined to make trial of podophyllin. The first case which offered was as follows:—

1. Mr. ——, for whom I had prescribed, above a year ago, for constipated bowels, indigestion, and biliary congestion, wrote to me, from a distance, that his former ailments had returned. He had loss of appetite, foul tongue, bad taste in his mouth, foul eructations, pain in right side and epigastrium, constipated bowels, passing at intervals small quantities of clay-coloured feces. Has taken blue pill and seidlitz powders, which have purged him, but without any permanent relief. On a former occasion I had prescribed ox-gall, extract of taraxacum, the compound gentian mixture, with tartrate of soda and kali. I now ordered compound rhubarb pill, half a drachm; ox-gall, one drachm; and twelve grains of podophyllin, to be made into 24 pills, one to be taken night and morning.

In a few days I received intelligence that the pills had acted very powerfully; so much so that, after second day, he had only taken one in the 24 hours; that this produced three copious bilious evacuations daily, and without pain or griping.

I ordered that the pills should be taken every second night, and a simple bitter tonic. Under this treatment all the discomfort was effectually removed.

2. Mr. D., a medical gentlemen, has, for months past, suffered from chronic hepatalgia, the pain extending to the point of the right shoulder; has taken calomel, blue pill, extract of taraxacum, with compound gentian mixture; nitro-muriatic acid; these, separately and combined, had been had recourse to, but with little benefit. The stools are invariably deficient in bile. He took one grain of podophyllin with five of extract of colocynth, every night, for three nights. The second dose was followed by copious yellow bilious evacuations, much more copious than had ever followed calomel and colocynth, and without griping or nausea. He omitted the pills for three nights, and then took half a grain podophyllin, with three grains of extract of colocynth, and two of extract of hyosciamus; these he took every second night for a fortnight, with most satisfactory results and complete relief.

3. —— Admitted into Londonderry Infirmary, labouring under acute indigestion, with much hepatic congestion. Has been ill three months; has lost his flesh and strength; complains of thirst, nausea, loss of appetite, pain in the right side, obstinately constipated bowels, acidity of stomach, and vomiting at night of whatever food he takes during the day. His urine is high-coloured and loaded with lithates; his pulse very slow, and he is much depressed in spirits. Has taken all manner of drastic purgatives—calomel, castor oil, extract of colocynth, croton oil, &c., &c., and without the desired effect of regulating his bowels. I ordered for him—after cupping him, and applying a blister over the

epigastrium, bismuth mixture during the day, and at night six grains of extract of colocynth, and one grain podophyllin in a pill. These pills acted most satisfactorily, did not cause griping or nausea, and produced copious biliary evacuations.

Under the use of these pills the bowels became regular, and I had the satisfaction of sending him home in about three weeks, as he described himself, "a new man."

I have notes of a dozen more cases in which indigestion, constipation, with deficient biliary secretion were the prominent symptoms, in which I prescribed podophyllin in doses from one grain to two-thirds, or half a grain, combined with five grains extract of colocynth, with the happiest effects. It has been in my hands a most valuable chologogue aperient, certain in its operation, and only in one instance did it gripe or cause nausea. Combined with extract of colocynth I look on it as superior to any combination of vegetable aperient—as scammony with calomel or blue pill, jalap, or senna; more certain in its operation, and not causing griping, nausea, or irritation of the intestinal canal, as these purgatives frequently do.

## LONDONDERRY CITY AND COUNTY INFIRMARY, AND CITY FEVER HOSPITAL.

### REPORT FOR YEAR 1862.

*With some Remarks by* T. H. Babington, M.D., T.C.D., *Surgeon to the Infirmary.*

*Return of Patients admitted into and Treated in the City and County of Londonderry Infirmary, during the year ending 31st December, 1862.*

| | | |
|---|---|---|
| Remaining 31st January, 1862, | 71 | |
| Admitted to 31st December, 1862, | 656 | —Total, 727 |
| Discharged, cured and relieved, | 603 | |
| Incurable, | 4 | |
| Left at own desire, | 25 | |
| Irregular, | 4 | |
| Sent to Lunatic Asylum, | 1 | |
| Died, | 36 | —Total, 673 |
| Remaining 1st January, 1863, | 54 | |

*City of Londonderry Fever Hospital.*

| | | |
|---|---|---|
| Remaining 1st January, 1862, | 6 | |
| Admitted to 31st December, 1862, | 96 | —Total, 102 |
| Discharged cured, | 72 | |
| Died, | 14 | —Total, 86 |
| Remaining 1st January, 1863, | 16 | |

| | | |
|---|---|---|
| Total number of Days passed by Patients in Hospital, | 21,645 | |
| Total number of Days passed by Patients in Fever Hospital, | 2,288 | —23,933 |
| Average number of Days passed by each Patient in Hospital, | 29⅔ | |
| Number of Beds, | 48 | Male. |
| Ditto, | 24 | Female. |
| Total, | 72 | |
| Average number of Beds occupied Daily, | 59 | |

| | | | |
|---|---|---|---|
| Average Cost of Hospital and Fever Patients, including all expenses, | £2 | 1 | 10¼ |
| Average Cost of Hospital and Fever Patients exclusive of Salaries, Wages, and Annuity, amounting to £496 3s. 8d., | 1 | 9 | 10½ |
| Daily cost of each Patient, including all expenses, | 0 | 1 | 5¼ |
| Daily cost of each Patient, exclusive of Salaries, Wages, and Annuity, amounting to £496 3s. 8d., | 0 | 1 | 0¼ |

*Numerical Abstract of Cases of Diseases and Accidents and Deaths for the Year* 1862.

| ACCIDENTS. | No. | Died. |
|---|---|---|
| Burns and Scalds, | 8 | 1 |
| Dislocation of Clavicle, | 1 | |
| ,, ,, Humerus, | 6 | |
| Fractures of Arm, | 8 | |
| ,, Compound, of do., | 1 | |
| ,, of Clavicle, | 2 | |
| ,, of Foot, | 1 | |
| ,, Compound of Hand, | 2 | |
| ,, ,, of Up. Jaw, | 1 | |
| ,, ,, of Low. Jaw, | 2 | |
| ,, of Ilium, | 1 | |
| ,, of Leg, | 11 | |

| ACCIDENTS. | No. | Died. |
|---|---|---|
| Fracture, Compound, of Leg, | 3 | |
| ,, of Thigh, | 7 | |
| ,, of Neck of Thigh, | 2 | |
| ,, of Ribs, | 6 | 1 |
| ,, of Skull, | 2 | |
| ,, of Scapula, | 1 | |
| ,, Compound, of Toes, | 2 | |
| Injuries of Eyes, | 6 | |
| ,, of Head, | 11 | 1 |
| ,, of Spine, | 6 | 2 |
| General Contusions, Wounds, and Sprains. | 68 | 1 |

| DISEASES. | Cases. | Died. |
|---|---|---|
| Abscess, | 10 | |
| Anemia, | 13 | |
| Aneurism of Aorta, | 1 | |
| Apoplexy, | 2 | 1 |
| Bronchitis, | 35 | 2 |
| Cancer of Axilla, | 2 | |
| ,, of Breast, | 5 | |
| ,, of Ear, | 1 | |
| ,, of Face, | 3 | |
| ,, of Foot, | 1 | |
| ,, of Jaw, | 1 | |
| ,, of Lip, lower, | 3 | |
| ,, of Nose, | 1 | |
| ,, of Œsophagus, | 1 | |
| ,, of Penis, | 1 | |
| ,, of Stomach, | 2 | 1 |
| ,, of Uterus, | 3 | 2 |
| Catarrh, | 23 | |
| Chorea, | 1 | |
| Club Feet, | 2 | |
| Cynanche tonsillaris, | 4 | |
| Diabetes, | 2 | |
| Diseases of Brain, &c., | 11 | 2 |
| ,, of Eye, | 37 | |
| ,, of Bones & Joints, | 28 | 1 |
| ,, of Heart, | 5 | 2 |

| DISEASES. | Cases. | Died. |
|---|---|---|
| Diseases of Spine, | 7 | 3 |
| ,, of Stomach, &c., | 37 | |
| ,, of Testicle, | 7 | |
| ,, of Uterus, | 8 | |
| Dropsy, | 13 | 4 |
| Epilepsy, | 3 | |
| Fistula, Vesico-vaginal, | 2 | |
| Hare-lip, | 2 | |
| Hemorrhoids, | 4 | |
| Lupus, | 3 | |
| Nevus, | 1 | |
| Paralysis, | 6 | 2 |
| Paraphymosis, | 4 | |
| Phthisis, | 29 | 10 |
| Pleuritis, | 8 | |
| Pneumonia, | 4 | |
| Rheumatism, | 43 | |
| Skin Diseases, | 24 | |
| Stricture of Urethra, | 2 | |
| Struma, | 29 | |
| Syphilis, | 15 | |
| Tumours, | 5 | |
| Whitlow, | 11 | |
| Ulcers, | 32 | |
| Fever cases, | 96 | 14 |

| OPERATIONS. | No. |
|---|---|
| Amputation of Breast, for Cystic Tumour, | 1 |
| ,, ,, Foot, for Cancer of Toes, | 1 |
| ,, ,, Leg, for Gangrene, | 1 |
| ,, ,, Penis, for Cancer, | 1 |
| ,, ,, Testicle, for Encephaloid Cancer, | 1[a] |
| Removal of Lower Lips, for Cancer, | 3 |
| Operation for Hare-lip, | 1 |
| ,, ,, Double Hare-lip, | 1 |
| ,, ,, Club Feet, | 2 |
| ,, ,, Vesico-vaginal Fistula, | 2 |
| Paracentesis Vesicæ, for Retention of Urine from Impermeable Stricture, | 1 |
| Excision of Carious Bones of Tarsus, | 2 |

The foregoing tables exhibit the total number of cases treated during the year 1862; the cost of each patient; average number of days passed in hospital; average number of beds occupied daily; and a numerical return of the several cases of accidents, diseases, and deaths, which came under observation. Some of the cases were of sufficient interest to require some longer notice.

In the fatal case of burn, the accident—an extensive burn of face, arm, side, and thigh—happened to a man aged 66, subject to epileptic fits. He sunk, and died exhausted, having been in hospital 103 days.

The compound fracture of arm was caused by the man's arm getting entangled in the machinery of a steam saw-mill. The integuments and muscles were greatly lacerated, and both bones obliquely fractured and crushed midway between the elbow and wrist. He recovered, with a very useful hand and arm.

The compound fractures of the hand were caused by the hands being caught between the rollers of machinery for making biscuits in a steam bakery.

The compound fracture of upper jaw was accompanied with an extensive wound of the cheek, of a semicircular form, extending from below the left eye to behind the left ear. The wound was inflicted by a piece of some part of a mortar used for discharging some explosives at a display of fireworks. The mortar burst—several persons were wounded. The cavity of the mouth was completely laid open, and there was considerable hemorrhage, which was controlled by pressure and the application of tincture of matico. The boy made a good recovery, but retains an ugly scar from the wound.

The compound fractures of the lower jaw were the result of direct violence. In the first case, the patient was struck on the jaw by the point of a cart shaft, and knocked against a gate-post. The lower jaw was fractured on both sides, about midway between the symphysis and angle, and a deep wound communicated with each fracture. Violent acute inflammation of the mouth and tongue set in; and for some days

[a] The disease attacked the other testicle and inguinal glands two months after the operation.

the patient was in a precarious condition. The second case was caused by a blow of a stone or a stick, and fractured the jaw on left side, and inflicted a deep contused wound. This man had also acute inflammation of the tongue, and lost several of his teeth. Both cases recovered.

The fracture of the ilium was caused by a fall into the hold of a ship. The patient complained of great pain when any movement was attempted which threw the abdominal muscles into action. There was no apparent deformity; but, on fixing the pelvis with one hand, and manipulating the seat of injury, distinct crepitus was detected. The spine, and about three inches of the crest of ilium were detached. The patient made a good recovery, and without lameness.

The compound fractures of the leg were serious cases—two caused by kicks of horses; the third, by the wheel of a railway waggon crushing the leg—the bones were, I may say, pulverized. I had great doubts as to the propriety of attempting to save the limb; the patient was young and healthy; I determined to give him a chance, and had the satisfaction of sending him home with a useful limb, one inch shorter than the other.

The injury of head, which proved fatal, was received on the same occasion as the compound fracture of the upper jaw. The stock of the mortar (made of wood) was torn to pieces by the explosion; a piece of the wood struck the sufferer (one of a crowd of spectators) on his left eye. The eye was knocked out—his face and forehead frightfully contused and wounded—the orbital and frontal bones smashed and driven in; there was considerable hemorrhage—convulsions set in next day, and he died insensible, 40 hours after the receipt of the injury.

A considerable number of cases of cancer came under observation during the year. The cases of cancer of the axilla were both in a state of open ulceration. Three of the cases of cancer of the breast were in a similar condition. In the other two the axillary glands were much enlarged, and the skin adherent to the tumours. Any operative interference was not justifiable. In the cases of cancer of the ear, the foot, the lower lips, and the penis, the diseased parts were removed, andthe cases have all done well.

In the fatal case, included under the head of diseases of bones and joints, death was the consequence of acute inflammation of the periosteum covering the tibia. The case had been greatly neglected by his friends before his admission into hospital.

Both the cases of vesico-vaginal fistula were treated by paring the edges, closing the opening with wire sutures, inserted with the tubular needle; all the steps of the operation performed as described by Professor Simpson, in his lectures in the *Medical Times and Gazette*, in the year 1859. One of the cases was successful; in the other the operation was attended with no benefit, owing, I believe, to the wilful disobedience of the patient

of all directions given her as to position, &c., &c. She would not even allow the catheter to remain in the bladder.

The cases of lupus were much benefited; one of them healed by the application of Dupuytren's powder of calomel and arsenic.

The case of nevus—a large one in a child, situated in front of anterior fontanelle—was effectually treated by passing woollen threads through it, saturated with liquor ferri-terchloride.

The deaths from paralysis require a more extended notice, owing to the unusual cause which, in the first instance, occasioned the paralysis.

These cases will form the subject of a communication on a future day.

Bronchitis, catarrh, and rheumatism were unusually prevalent in the early months of the year, owing to the excessive damp and humidity of the atmosphere.

Fever became prevalent, in the lower parts of the city, from the month of October—102 cases were treated; more than double the number admitted in 1861, and more than one-third above the number of patients in any year from 1856. The mortality appears somewhat above the average; but six of the fatal cases died within 24 hours of their admission into hospital, and may be described as being, on admission, moribund. The cases were nearly all maculated typhus, complicated with bronchitis and pneumonia—in some few instances with gastric irritation and diarrhea. Six of the cases may be classed under the head of typhoid fever. Two of these cases occurred immediately after convalescence from scarlatina.

From the consideration of many cases of fever, and accurate observation of the complications, differences, and distinctions, I feel bound to hold the opinions expressed by Dr. Henry Kennedy, in the *Dublin Journal*, for August, 1862, as well as in his paper read before the Royal Medico-Chirurgical Society, in May, 1862:—"That while these types of fever (*typhus and typhoid*) could be distinguished from each other, they should be considered as the result of a common poison."

# JOHN MOORE NELIGAN, M.D., M.R.I.A.,

## DIED 24TH JULY, 1863,

## AGED 48.

It is our painful duty to record the death of Dr. J. Moore Neligan, our immediate predecessor in the Editorship of this Journal, which took place at six o'clock, p.m., on Friday, the 24th July, at his country residence, Clonmel House.

Some years ago Dr. Neligan had a serious illness, partaking much of the characters of diffuse inflammation, and marked by the occurrence of multiple abscesses; since this his health had been more or less delicate; his kidneys did not perform their duties satisfactorily; blood occasionally escaped from them, and there was more or less albumen in the urine; however, by relaxing his labours, residing near the sea-side, and occasionally travelling, these symptoms were alleviated, and his general health improved so much that he was enabled to attend to a large and extensive practice—a practice that had grown so large that for some time before his death he declined seeing patients except in consultation.

On Thursday, the 16th of July, he attended to his patients as usual, but on this day made a change in his clothing, and consequently experienced a chill; next day, however, he came into town, but feeling unwell, returned to Clonmel House and betook himself to the bed, from which he never rose again. The kidneys now almost entirely ceased to discharge their functions, and what urine was secreted was densely loaded with albumen; evidences of blood poisoning quickly showed themselves; effusion into the joints took place; the abdomen became tympanitic; vomiting of blood occurred, and coma set in, accompanied with spasmodic twitching of the muscles, showing a tendency to convulsions.

During this illness he was closely attended by Dr. Bevan, one of his earliest professional friends in Dublin, and by Drs. Mayne and Hudson; but, from the very commencement the symptoms were of too grave a character to allow of any hopes being entertained of their removal, and he himself was well aware of the serious nature of his illness. The prospect of death, however, had no terrors for him, he arranged his worldly affairs, sent his kind remembrances to his friends, especially his professional brethren, and rejoiced to go to his Heavenly Father.

Dr. Neligan was born, in the year 1815, at Clonmel, where his father—who died while he was still a boy—practised as a physician. After receiving a sound elementary education, he repaired to Edinburgh, where, having distinguished himself as a student and acquired the esteem and respect of the University professors, he

graduated in 1836, being then but twenty-one years of age. He now practised for a few months in his native town, but soon moved to Cork; and in 1840, wishing for a more extended sphere, removed to Dublin, where he was almost immediately appointed physician to Jervis-street hospital, with which he continued to be connected till recently, and where he was highly esteemed as a clinical teacher.

In the same year he was appointed Lecturer on Materia Medica in the Dublin School of Medicine, which was then in Digges-street, but was soon afterwards removed to Peter-street. Here he at once began to form a museum for the illustration of his lectures, and, assisted by Dr. Bevan, made a collection of such value that it has, very recently, been purchased by the College of Surgeons for the use of their Professor of Materia Medica. It soon became evident to him, as a teacher, that the works on Materia Medica then in use were not well adapted to the requirements of students or practitioners, and he accordingly applied himself to the preparation of his work on *Medicines, their Uses and Modes of Administration*,[a] the first edition of which was published in 1843, when the author was not more than seven-and-twenty years of age.

If success be a test of merit—and in such a case as this who would deny it—this was a most meritorious work; for five editions of it have since been sold off, and it is now passing through a sixth, the publication of which is only delayed waiting the appearance of the long-promised *British Pharmacopœia*—a work which we fear his death may still further delay, as he was one of those appointed to assist the Medical Council in its compilation, and was engaged up till the time of his death in supervising its passing through the press.

When a work has gone through five large editions, and is still in demand, it cannot be necessary to dilate on its merits. Suffice it, then, to say that this one is distinguished by the bold course adopted by its author, of omitting the mass of chemical, botanical, and commercial details so constantly found in such works, and devoting his energies to the illustration of the therapeutic actions and the modes of administration of medicines; an object for the better carrying out of which he arranged the medicines according to their physiological actions. Each successive edition received its author's anxious care; but when his publishers intimated that a sixth edition was required he requested that they should obtain the services of Mr. Macnamara, Professor of Materia Medica in the College of Surgeons, to revise it, as his state of health and his rapidly-extending practice would not allow of his devoting the same care to it as he had done to the previous editions.

We believe it was his being the author of this work that led to Dr. Neligan's being appointed one of the jurors at the late Exhibition in London.

[a] Dublin: Fannin and Co.

Dr. Neligan continued to lecture on Materia Medica for several years, and, during this time, published many very valuable original essays on subjects connected with therapeutics, of which one on "Electro-Magnetism" appeared in the *Edinburgh Monthly Journal of Medical Science*, and the others, as well as a very able "Retrospect of Materia Medica and Therapeutics," appeared in our own pages.

We next find him exchanging his chair for one on the practice of medicine. His then colleague, Dr. Corrigan, having been induced to resign his lectureship on the practice of medicine to accept a similar one in the Richmond School, Dr. Neligan, at the solicitation of the managers undertook the duties of the chair thus left vacant in the Dublin School; and we can ourselves bear testimony to the success which attended his labours in this department, which he continued to occupy till the school was transferred, in 1857, to Stevens' Hospital.

As a teacher of practical medicine, Dr. Neligan's attention was naturally directed chiefly to practical subjects; and our own pages, and the reports of various societies, bear ample testimony to the zeal with which he worked. The variety of the subjects he wrote on, as shown in the subjoined list[a] of his communications to this Journal, shows that though his attention was ultimately chiefly directed to diseases of the skin, he was no mere specialist.

In addition to the papers we have enumerated, Dr. Neligan conducted this Journal from 1849 till 1861, having succeeded Mr. Wilde in the editorship of it, and resigned it with reluctance on the completion of the 37th Volume of the present series; and we believe we can safely say that the journal, while under his management, maintained the highest character, not only for the value of its

[a] 1. Case of Pneumo-thorax with Empyema. Vol. iv., p. 247.
2. Cases of Sea Scurvy. *Ibid*, p. 493.
3. An Essay on the Diagnosis and treatment of Eruptive Diseases of the Scalp. Vol. vi., p. 29.
4. Contributions to the Pathology and Treatment of Eruptive Diseases of the Skin. Vol. viii., p. 340.
5. Observations on Hemorrhage. Vol. ix., p. 347. In this paper he treats of Hematemesis and Melæna, Hemoptysis, Pulmonary Apoplexy, and the Hemorrhagic Diathesis.
6. Inadequacy of the Aortic Valves, with Pulmonary Apoplexy. Vol. x., p. 491.
7. Intestinal Calculus in a Horse. Vol. x., p. 495.
8. On Eruptive Diseases of the Face. Vol. xi., p. 326.
9. Emphysema of the Lungs. Vol. xii , p. 195.
10. On Sulphate of Bebeerine in Intermittents. Vol. xvi., p. 201.
11. On Aneurism of the Aorta opening into the Pericardium. Vol. xvii., p. 224.
12. On Inflammation of the Rectus Muscle of the Abdomen. Vol. xviii., p. 194.
13. On Pulvis Ferri. Vol. xviii., p. 204.
14. On a Peculiar Black Discolouration of the Skin of the Face. Vol. xix., p. 293.
15. On Diabetes Insipidus. Vol. xxi., p. 209.
16. On the Treatment of Porrigo. Vol. xxi., p. 219.
17. Case of Strangulation of the Toe. Vol. xxii., p. 212.
18. On an Abnormal Condition of the Mucous Membrane of the Tongue and Cheeks in connexion with Life Assurance. Vol. xxxiv., p. 15.

original articles, but for that for which the editor is more directly responsible, the impartiality and value of its reviews; and very many of these were written by himself.

In 1848 Dr. Graves selected Dr. Neligan to edit the second edition of his clinical lectures; and the manner in which this was done contributed, we believe, not a little to the value of this world-famed work.

In 1852 Dr. Neligan's book on the diseases of the skin appeared, and confirmed him in the position he had been rapidly attaining of our leading consultant in these affections. This work is chiefly characterized by its original observations on the diagnosis and treatment of cutaneous eruptions. The descriptions of the several groups of skin affections are remarkable for clearness, conciseness, and rigid plainness of expression; a style which enabled the author to compress much into a single sentence, without in any degree injuring the sense; but, on the contrary, making it more comprehensible and impressive. The diagnosis is made clear and definite, and many original and important improvements in the therapeutics of these diseases are introduced. One thing only was wanting to the completeness of the treatise, and that was well supplied in the volume of coloured illustrations published in 1855.[a]

In 1853 Dr. Neligan had the honorary degree of M.D. conferred on him by the University of Dublin—a degree made the more valuable by its being conferred on those only who have attained to note and eminence. In the same year he became a Fellow of the King and Queen's College of Physicians in Ireland, of which he was soon made Vice-President; and it is generally understood that the Fellows meant to have elected him President for next year. He was an Honorary Fellow of the Societies of Physicians of Sweden and of Athens, and of the Medical Societies of Cork and Belfast, and an active and influential Member of the Royal Irish Academy and Royal Dublin Society.

Of a commanding appearance, highly favoured by nature in mind and person, his industry was untiring. A true friend, he hesitated not to sacrifice his own to serve the interests of those he esteemed, an instance of which came very recently under our own cognizance, when he declined the offer of a valuable appointment to which he thought another had a more legitimate claim, and expressed himself so as to secure its being given to his younger *confrére*.

In him society has lost a skilful physician—medicine, an able exponent—the profession, a dauntless upholder of its rights and dignity—and we, a valued friend.

[a] Atlas of Cutaneous Diseases, containing nearly 100 coloured illustrations of skin diseases. Dublin: Fannin & Co. 1855. Small folio.

## BOOKS RECEIVED, AUGUST, 1863.

1. On malaria and miasmata, and their influence in the production of typhus and typhoid fevers, cholera, and the exanthemata; founded on the Fothergillian prize essay for 1859. By Thomas H. Barker, M.D., &c. London: Davies, 1863. 8vo, pp. 251.

2. The Stethoscope, No. III. A quarterly review of the modern practice in consumption and chest diseases. London: Davies, 1863. 8vo, pp. 60.

3. On rupture, inguinal, crural, and umbilical; the anatomy, pathology, diagnosis, cause, and prevention, with new methods of effecting a radical and permanent cure; embodying the Jacksonian prize essay of the Royal College of Surgeons, London, for 1861. With numerous illustrations. By John Wood, F.R.C.S., &c. London: Davies, 1863. 8vo, pp. 326.

4. Transactions of the Obstetrical Society of London. Vol. iv., for the year 1862. London: Longmans, 1863. 8vo, pp. 338.

5. Report of the committee on military affairs and the militia (Senate of the United States), to whom was referred the petition of Dr. W. T. G. Morton, asking compensation for the discovery and gift to his country and mankind of the application of etherial vapour, as a safe and practical anesthesia, or pain subduing agent, 14th February, 1863. 8vo, pp. 166.

6. On the cure of club foot without cutting tendons, and on certain new methods of treating other deformities. By R. Barwell, F.R.C.S., &c. Illustrated by engravings on wood. London: J. Churchill and Sons, 1863. Fcap, 8vo, 224.

7. The pharmacopœias of thirteen of the London hospitals, arranged in groups for easy reference and comparison. By Peter Squire, F.L.S., &c. London: J. Churchill and Sons, 1863. 12mo, pp. 152.

8. Canada Lancet, Nos. I., II., III., and IV., March, April, May, and June. Montreal, 1863.

9. A clinical memoir on certain diseases of the eye and ear, consequent on inherited syphilis, with an appended chapter of commentaries on the transmission of syphilis from parent to offspring, and its more remote consequences. By J. Hutchinson, F.R.C.S., &c. London: J. Churchill, 1863. 8vo, pp. 259.

10. Excessive infant mortality; how can it be stayed, to which is added a short paper (reprinted from the Lancet) on infant alimentation, or artificial feeding, as a substitute for breast milk, considered in its physical and social aspects. By M. A. Baines. London: J. Churchill and Sons, 1863. Pamph. 8vo, pp. 20.

11. Outlines of a new theory of muscular action; being a thesis read for the degree of Doctor in Medicine before the University of Dublin, Dec. 17, 1862. By the Rev. Samuel Haughton, M.D., F.R.S. Fellow of Trinity College, Dublin. London: Williams and Norgate, 1863. Crown 8vo, pp. 23.

12. Förhandlingar vid svenska läkaresällskapets sammankomster från och med Okt., 1861, till och med Sept., 1862. Stockholm, 1862. Norstedt, 8vo, pp. 280.

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